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PROCEEDINGS

OF THE

American Pharmaceutical Association

AT THE

SIXTH ANNUAL MEETING

HELD IN PHILADELPHIA,

SEPTEMBER 1857,

WITH

THE CONSTITUTION AND LIST OF THE MEMBERS.

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PHILADELPHIA:
MERRIHEW & THOMPSON, PRINTERS,
Lodge street, North side of Pennsylvania Bank.
1857.

OFFICERS

OF THE

American Pharmaceutical Association.

1857-'58.

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1857

PRESIDENT,

CHARLES ELLIS, Philadelphia, Penna.

VICE PRESIDENTS,

James Cooke, - - - - - -	Fredericksburg, Va.
S. P. Peck, - - - - - -	Bennington, Vt.
A. E. Richards, - - - - -	Plaquemine, La.

TREASURER,

Samuel M. Colcord, - - - -	Boston, Mass.

RECORDING SECRETARY,

W. J. M. Gordon, - - - - -	Cincinnati, Ohio.

CORRESPONDING SECRETARY,

Edward Parrish, - - - - - -	Philadelphia, Penna.

EXECUTIVE COMMITTEE,

Samuel S. Garrigues, Chairman, Philadelphia.

H. T. Cummings, Portland, Me. Joseph Roberts, Baltimore, Md.

W. H. Gilman, Washington, D.C. W. J. M. Gordon, Cincinnati, O.

COMMITTEE ON THE PROGRESS OF PHARMACY.

Frederick Stearns, Chairman, Detroit.

I. J. Graham, Baltimore. R. H. Stabler, Alexandria, Va.

Eugene Dupuy, New York. Edward Parrish, Philadelphia.

NOTE.

TO THE MEMBERS OF THE ASSOCIATION.

The Executive Committee, in preparing the accompanying report of the Sixth Annual Meeting of the American Pharmaceutical Association, have followed nearly the plan pursued in the former reports:

1st. The minutes of the meetings, containing the report of the Executive Committee and the Treasurer, and that of the Committee on the revision of the Pharmacopœia, which are so short as to be introduced in the body of the Minutes without breaking the thread of the Proceedings. The roll of members in attendance, reaching 75 in number, is separated from the Minutes, and given entire at page 35.

2d. The reports of Committees on Weights and Measures, Sale of Poisons, Progress of Pharmacy and Unofficinal Formulæ, and a Communication from Dr. M. J. Bailey, late Special Examiner of the port of New York, under the head of "Reports of Committees," occupy from page 36 to 101.

3d. Under the head of "Scientific Reports and Essays," are included a larger number of interesting papers, than have ever before been read before the Association.

4th. The "Volunteer Papers," commencing on page 146, embrace one by E. Parrish, two by F. Stearns, and one by J. M. Maisch, all of which possess much interest to the Pharmaceutical profession, and deserve attention.

5th. It will be observed that the Appendix, as heretofore, contains the Constitution, Roll of Members, and a list of the Special Committees from whom reports are expected next year. To this, as well as to the list of subjects referred to individual members, commencing on page 30, the attention of all is especially directed. An Index will be found at the end of the work.

A list of the Presidents and Vice Presidents of the Association, since its organization has been introduced, as possessed of historical interest.

The edition of the Proceedings comprises 1200 copies. Each mem-

ber will be furnished with one copy by mail as soon as the work is issued, and is entitled to two additional copies on application to the undersigned, Chairman of the Executive Committee, by forwarding accurate directions and nine cents for each copy, in U. S. postage stamps; this covers only the expense of forwarding.

The price of the work in paper is 24 cents per copy, which covers the cost merely; the postage, as before stated, is nine cents. In order to facilitate the permanent preservation of the important documents it contains, we have had a considerable number of copies bound in boards. The additional expense of these is fifteen cents each, and the postage on each is fifteen cents, making an aggregate of 54 cents.

Members wishing bound copies mailed to them in preference to the two in paper to which they are entitled, will forward to the undersigned thirty cents for each, which will include binding and postage.

New members who receive a copy of these Proceedings, and find in the Minutes a record of their election, will receive this as an official announcement of the fact, and if not otherwise directed may obtain certificates of membership by mailing the fee to the undersigned, with proper directions for forwarding the certificate.

The "Proceedings" of previous years, from 1852 to 1856, inclusive, having been freely distributed at the time of their publication, are now difficult to obtain, especially those of 1852. Members possessing duplicate copies are requested to mail them to the undersigned, as it is the intention of the Executive Committee to collect as many complete sets as possible, and have them bound in a permanent form for sale.

Members are especially urged to use the facilities afforded by the publication of these Proceedings, which are certainly creditable to the Association at so early a period of its history, to spread a knowledge of its objects and position among the members of our own and of the medical profession, and to enlist the press in their respective localities in giving greater publicity to what is doing for the elevation and progress of Pharmacy.

SAMUEL S. GARRIGUES,
Chairman of the Executive Committee,
No. 108 *North Fifth street, Philadelphia.*

PROCEEDINGS

OF THE

American Pharmaceutical Association.

MINUTES OF THE SIXTH ANNUAL MEETING.

The American Pharmaceutical Association commenced its Sixth Annual Meeting at the Hall of the Philadelphia College of Pharmacy, Sept. 8th, 1857, at 3 o'clock, P. M.

The President of the Association, GEORGE W. ANDREWS, of Baltimore, being absent in Europe, and the first Vice President, J. L. KIDWELL, being also absent, the meeting was called to order by FREDERICK STEARNS, of Detroit, 2d Vice President; W. J.M. GORDON, of Cincinnati, Secretary.

On motion of Edward Parrish, a Committee on Credentials, was appointed by the Chair, consisting of S. M. Colcord, of Boston, John Meakim, of New York, and William Procter, Jr., of Philadelphia, who after a recess reported the following list of Delegates appointed to attend the meeting:

From the *Philadelphia College of Pharmacy*—Dillwyn Parrish, Ambrose Smith, William Procter, Jr., Charles Bullock and T. S. Wiegand.

New York College of Pharmacy—John Meakim, Eugene Dupuy, Geo. W. Berrian, Jr., John Canavan and George W. De la Vergne.

Massachusetts College of Pharmacy—William A. Brewer, Charles A. Tufts, S. P. Peck, Charles T. Carney and Samuel M. Colcord.

Cincinnati College of Pharmacy—W. J. M. Gordon, Charles A. Smith, W. B. Chapman, Edward S. Wayne and A. M. Stevens.

Maryland College of Pharmacy—J. F. Moore, I. J. Grahame, J. H. Lemmon, Joseph Roberts and J. Jacob Smith.

Pharmaceutical Association of Washington City—F. S. Walsh, S. E. Tyson, Daniel B. Clarke, D. S. Dyson and James N. Callan.

The following gentlemen were reported by the Executive Committee as having been elected members of the Association during the interim:

William Loeffler, Chambersburg, Pa.	C. K. Gallagher, Washington, N. C.
Eugene L. Massot, St. Louis, Mo.	Wm. B. Little, San Francisco, Cal.
Crawford Blackwood, Columbus, Miss.	Peter V. Coppuck, Mt. Holly, N. J.
	H. A. Hughes, Louisville, Ky.
John Jackson, Knoxville, Tenn.	Washington Laycock, Detroit, Mich.
Samuel K. Norgrave, Pittsburg, Pa.	Matthew F. Ash, Jackson, Miss.

The Chairman of the Executive Committee reported the following gentlemen for membership, who were balloted for and duly elected, viz:

Samuel F. Troth,	Philada.	Thomas P. James,	Philada.
Louis M. Emanuel,	"	Samuel S. Bunting,	"
Samuel N. James,	"	Edward H. Hance,	"
George Cook,	"	William R. Warner,	"
Thomas Lancaster,	"	Evan T. Ellis,	"
Asher S. Leidy,	"	Bradford Ritter,	"

The Secretary then called the roll, and forty five members were found to be present.*

The Report of the Executive Committee was read by the Chairman, Edward Parrish, and on motion, was accepted, and laid on the table for future action. It is as follows:

The Executive Committee present the following Report of their proceedings for the past year:

The annual publication entitled "*Proceedings of the American Pharmaceutical Association*," was issued early after the meeting in Baltimore. It comprised ninety octavo pages, and we have an evidence of the interest which it excited in the numerous applications for copies which reached the Committee by mail and otherwise. One thousand copies were published at an expense of $135 92.

The subject of collecting and placing in a safe repository the manuscript and printed documents of the Association, was referred to us last year, by Resolution, and we have obtained the

*See roll of members in attendance.

use of cases in the Hall of the College of Pharmacy, Zane street, Philadelphia, for the purpose. It is cause of regret that so small a stock of the Proceedings of previous years is in our possession, and we propose that the effort be made to procure back numbers to be sent to the Chairman of the next Executive Committee, so that complete sets may be made up for future use.

There have been, since the last annual meeting, sixteen applications for membership. Of these, one was, by the advice of the Committee, withdrawn, eleven were approved by the separate members in writing, and duly elected.

Copies of the Constitution, signed by these applicants respectively, with the required vouchers of Physicians and Pharmaceutists, the approval of the Committee, and the endorsement of the President, accompany this report. They are designed to be deposited with the papers of the Association.

The remaining four applicants, up to the time of writing this report, are: George W. Sloan, Indianapolis, Ind.; John M. Clark, Milledgeville, Ga.; William M. Guilford Lebanon, Pa., and P. C. Candidus, Aberdeen, Miss. These have not received the necessary sanction of the President in consequence of his absence from the country; their applications have been duly approved by the Committee, and they are recommended for election.

During the past year, which has been remarkable throughout the country for the rare occurrence of acute disease, our Association has sustained no loss by death, except in one instance, that of Benjamin Canavan, of New York, which will be appropriately noticed by a member of the New York delegation.

The following names have been erased from the roll, they having voluntarily relinquished membership by failing to pay their contributions for three successive years, exclusive of the contributions for the current year.

* * * * * * *

Your Committee, through Professor Guthrie, propose to make a separate report on the subject of the appointment of Special Examiners, referred to them last year.

Edw. Parrish *Chairman.*
Chas. T. Carney.
C. B. Guthrie.
W. J. M. Gordon.
I. J. Grahame.

The following Reports of Committees were read by their titles, and laid on the table:

The Report on a Syllabus of a course of study appropriate to the Student of Pharmacy.

The Report upon the subject of Weights and Measures.

The Report on the subject of the Sale of Poisons, &c.

The Report on the Progress of Pharmacy.

The Report on the expediency of the Association taking part in the revision of the Pharmacopœia, was read, accepted, and laid on the table for future consideration.—(See page 21.)

The Committee appointed to collect, compile and report local unofficinal formulæ in use by Physicians, presented a report, which was received and laid on the table.

The following Committee of one from each local organization represented, was selected by the delegations to nominate officers, viz.:

Massachusetts College.—S. M. Colcord.

New York College.—Eugene Dupuy.

Philadelphia College.—Wm. Procter, Jr.

Cincinnati College.—W. J. M. Gordon.

Maryland College.—Joseph Roberts.

Washington Association.—D. S. Dyson.

From the members at large, Edward Parrish, of Philadelphia, H. T. Cummings, of Portland, John Buck, of Chelsea, were appointed by the chair.

On motion, the selection of a room for the future sessions of the Association, among those in the College building, was referred to the Local Committee.

The Treasurer's report was presented and laid on the table for future action.

An invitation was received from the Academy of Natural Sciences to visit their Museum, and from the Dean of the University of Pennsylvania to visit their Anatomical Museum, which were accepted and the thanks of the Association tendered.

On motion of Charles Ellis it was resolved that the professors of the Philadelphia College of Pharmacy, not members of the Association, be invited to attend the meeting.

The following gentlemen were proposed for membership by the Executive Committee, balloted for and elected.

William Fiske, Cleveland, Ohio.
N. H. Jennings, Baltimore, Md.
Wm. H. Pratt, Philadelphia Pa
Edward Donnelly, do. do.
John Faber, New York.
Henry N. Rittenhouse, Wilmington, Delaware.
Henry Haviland, New York.
Charles H. Eggert, Philadelphia.
James Gordon, Boston.

It was on motion resolved, that when we adjourn we adjourn to 9 o'clock to-morrow morning.

Vice President Stearns then read the following Annual Address to the Association.

Gentlemen of the American Pharmaceutical Association,—

In the absence of our worthy President, G. W. Andrews, of Baltimore, and of our first Vice President, Mr. Kidwell, it has devolved upon me to state to you the results accomplished by the several Committees appointed at our last meeting, and to invite your earnest attention to the many subjects of importance and interest which will be presented for your consideration and action.

Allow me in this connection to refer with feelings of pride to the present condition of our Association, which, though young in years as an organization, has created for it—through its aims—an interest in the breasts of all well disposed Pharmaceutists of our broad Union.

Allow me also to congratulate you upon the goodly number, who from the West, the North, the South are here assembled to-day, and assembled with one common object—the elevation and improvement of Pharmaceutical Science. I trust we are all earnest and enthusiastic in our work, and, gentlemen, let us hope that we may soon rank our Association among the most important, useful, and scientific of our country, in the influence it will exert in elevating us as professional men, and in promoting the public welfare. The reports of the Standing Committees—the first, Executive—will show you that our Association is in a most desirable condition of prosperity; the 2d, upon the Progress of Pharmacy, has a digest of numerous interesting facts to offer.

The reports of the special committees, from their completeness, will add valuable matter to the archives of our institution.

We may expect full reports from those to whom the several questions were proposed at our last meeting.

I am also led to believe that several unofficial reports and communications of an interesting and important character will be offered.

Your attention will be called particularly to the importance of appointing a general committee, whose duties shall be to suggest revision and additions to our National Codex at the Pharmaceutical Convention in 1860. The importance of this matter will receive, it is hoped, its due consideration at your hands.

It is suggested from the success attending the apportioning of ques-

tions to individual members, that this method of obtaining interesting and important documents for the benefit of the Association be continued during the coming year, by the suggestion of new subjects for investigation to individual members.

Much other business will doubtless require your thoughtful and impartial consideration.

In the actions and discussions of this body of workers, I trust to see manifested enthusiasm, earnestness, that our meeting be conducted in a spirit of harmony, consistent with our position and character, and that your efforts will result in permanent good to our growing organization.

Before taking my seat among you, allow me to express my appreciation of the honor with which you were pleased to endow me, as well as my thanks for your present forbearance and courtesy.

On motion adjourned.

Second Day—Morning Session—Sept. 9th, 1857.

The Association was called to order at 9 o'clock A. M. by Vice President Stearns.

The following gentlemen having been proposed for membership by the Executive Committee, were balloted for and elected:

Elisha H. Perkins, Baltimore, Md.
George W. Sloan, Indianapolis, Ind.
John M. Clark, Milledgeville, Geo.
William M. Guilford, M. D., Lebanon, Pa.
P. C. Candidus, Aberdeen, Miss.
Charles A. Heinitsh, Lancaster, Pa.
Tristram W. Metcalfe, Brooklyn, New York.
Wm. L. McCorkle, Columbia, Pa.
R. F. Lattimer, Jackson, Mich.
Geo. M. Snowden, Philada., Pa.
Abraham S. Wiley, Cambridge, Massachusetts.
Eben Blatchford, Rockport, Mass.
Dexter D. Geyer, Gloucester, Mass.
Thos. Whitehorn, Brooklyn, N. Y.
George Syme, New York City.
Alexander Hudnut, Brooklyn, N. Y.
T. Morris Perot, Philada., Pa.
H. Steiner, Philadelphia, Pa.
John S. Pemberton, Columbus, Georgia.
Edwin O. Gale, Chicago, Ill.
William H. Gale, " "
Chas. E. Heckman, " "
T. R. Spence, Detroit, Mich.
Wm. H. Peabody, Buffalo, N. Y.
John T. Fuller, Detroit, Mich.
Otto Leuschner, Detroit, Mich.
Alfred S. Lane, Rochester, N. Y.
James D. Paine, Chicago, Ill.
J. J. Wm. Bowling, Alexandria, Virginia.

The Committee appointed to nominate officers made the following report, which was accepted.

The Committee to nominate officers for the ensuing year, being embarrassed by former precedents and what may be con-

sidered an independent course, have deviated so far from the usual practice as to offer for your suffrages three candidates for the presidency instead of one. Our reason for so doing is because this is the first instance of our meeting twice in the same city. By following former precedents we should select our presiding officer from the place of our meeting, and if this course is still pursued it is evident that a president cannot be selected from the rural districts. Although the Association never has and never should sacrifice merit to locality, yet the committee deem the present time a suitable one to make a change in the mode of nomination, and would offer three names, all well qualified; one a resident of Philadelphia, one of a sister city, and a third from a locality having no organized body of pharmaceutists.

NOMINATIONS.

For President—Charles Ellis, of Philadelphia, C. B. Guthrie, of New York, Henry F. Fish, of Connecticut.

1st *Vice President*—James Cooke, Fredericksburg, Virginia.

2d " " S. P. Peck, Bennington, Vermont.

3d " " A. E. Richards, Plaquemine, Louisiana.

Recording Secretary—W. J. M. Gordon, Cincinnati, Ohio.

Corresponding Secretary—Edward Parrish, Philadelphia, Pa.

Treasurer—Samuel M. Colcord, Boston, Massachusetts.

Executive Committee—S. S. Garrigues, Philadelphia, H. T. Cummings, Portland, Joseph Roberts, Baltimore, W. H. Gilman, Washington, W. J. M. Gordon, *Recording Secretary, ex-officio.*

Committee on the Progress of Pharmacy—Frederick Stearns, of Detroit, I. J. Grahame, of Baltimore, R. H. Stabler, of Alexandria, Eugene Dupuy, of New York, Edward Parrish, *Corresponding Secretary, ex-officio.*

Respectfully submitted.

Signed, S. M. Colcord, and others.

The Chair having appointed John Meakim and S. S. Garrigues tellers, the members proceeded to ballot for President, when

Charles Ellis, of Philadelphia, was elected.

The President elect was then conducted to the chair by its late occupant, and in a few pertinent remarks returned his thanks

to the Association for their expression of confidence, and promised his best efforts to facilitate the labors of the Association.

The balloting for officers being continued, the following gentlemen were elected.

VICE PRESIDENTS,

1st. James Cooke, ...	Fredericksburg, Va.
2d. S. P. Peck, ...	Bennington, Vt.
3d. A. E. Richards, . . .	Plaquemine, La.

TREASURER,

Samuel M. Colcord, . . .	Boston, Mass.

RECORDING SECRETARY,

W. J. M. Gordon, ...	Cincinnati, Ohio.

CORRESPONDING SECRETARY,

Edward Parrish, ...	Philadelphia, Pa.

The *Executive Committee* and *Committee on the Progress of Pharmacy* were elected as proposed by the nominating Committee, and subsequently these Committees severally elected S. S. Garrigues, of Phila., Chairman of the Executive Committee, and Frederick Stearns, of Detroit, Chairman of the Committee on the Progress of Pharmacy.

The Secretary was authorized by resolution to employ a Reporter to assist in embodying the discussions and extemporaneous communications for use in compiling the published proceedings.

It was moved by Edward Parrish that the reports of standing and special Committees as introduced, so far as convenient, be printed for the use of the members previously to their being acted upon. This was objected to, as likely to occasion delay, and was not adopted.

On motion of William A. Brewer, it was Resolved, That in the future annual meetings of this Association, the nomination for President be made from the members at large, without regard to the precedent which has hitherto governed us in selecting that officer from the members in the place where said meetings are held.

A communication was received from M. J. Bailey, M. D., late Special Examiner of Drugs, at the port of New York, and postponed to a future sitting.

On motion of W. Procter, Jr., it was Resolved, That a Committee of two be appointed to report, to a future sitting, a list of subjects for members to investigate and report on next year.

W. Procter, Jr., and E. Parrish, were appointed by the chair.

It was moved "that the Report of the Committee on the revision of the Pharmacopœia be printed for the use of the members before being acted on," which was carried.

It was moved and carried "that Reports of Committees be taken up in their regular order."

The Report on "A Syllabus for Pharmaceutical Students," was taken up and portions were read, but as it had not been sufficiently perfected for publication, on motion, the committee was continued, and requested to report to the next annual meeting; and they were authorized to have the Syllabus printed and distributed to members only, for private examination and suggestions, prior to the said meeting.

The Report of the Committee on Weights and Measures being next in order, the chairman, Prof. Guthrie, asked permission, which was granted, that the first hour of the afternoon sitting be allotted to the reading of his report.

The Report of the Committee on the sale of Poisons, and the legal means of restraining it, was read by the Chairman, S. S. Garrigues, accepted, and referred to the Executive Committee for publication. (See Reports of Committees.)

The Chairman of the Committee on Home Adulterations, Prof. Guthrie, made some verbal remarks, stating that he had made no written report, owing to sickness, to the want of co-operation by other members of the Committee, and to the difficulties to be overcome in reporting facts and names.

On motion, the Committee was discharged, and a new Committee nominated and elected, consisting of C. B. Guthrie, of New York, Alfred B. Taylor, of Philadelphia, Chas. T. Carney, of Boston, Alpheus P. Sharp, of Baltimore, and Wm. Fiske, of Cleveland.

On motion, adjourned to meet at 3 o'clock, P. M.

Second Day—Afternoon Session.

The Association was called to order at 3 o'clock, P. M., by the President, Charles Ellis.

The first business in order being the Report of the Committee on Weights and Measures, Prof. Guthrie read the document, and illustrated it with numerous tabular diagrams.*

On motion, the Committee was continued, William Procter, Jr., and John Meakim were added to it, and it was authorized to act with Committees from other bodies on the same subject.

The Report of the Committee on Unofficinal Formulæ was presented and read by its chairman, John Meakim. The report was accepted and referred to the Executive Committee for publication, with discretionary power.*

On motion, the Committee was discharged, and the following Committee appointed, viz: John Meakim, New York, Alpheus P. Sharp, Baltimore, Edward Parrish, Philadelphia, W. S. Brewer, Boston, W. H. Peabody, Buffalo, H. A. Blauw, Rochester, W. H. Gilman, Washington, Joseph Laidley, Richmond, Wm. B. Chapman, Cincinnati, Wm. Fiske, Cleveland, James Paine, Chicago, G. T. Chamberlain, St. Louis, T. R. Spence, Detroit, J. S. Melvin, Boston.

The Communication introduced this morning from M. J. Bailey, M. D., was now read and referred to the Executive Committee.

The Report of the Executive Committee of last year was again read, and was adopted.

The Report of the Committee on the Progress of Pharmacy, was now taken up, and various portions were read, so as to give the meeting an idea of its contents.* Appended to this report was a statement by the present Drug Examiner at New York, Dr. Merkle, exhibiting the kinds and amount of drugs passed daily from June 1st to August 31st, 1857, which was furnished at the request of a member of the Committee.

On motion of T. S. Wiegand, it was Resolved, That the Report of the Committee on the Progress of Pharmacy be accepted, and that the thanks of the Association be tendered to that committee for their very able and interesting report, and that it be published in the Proceedings in extenso.

* See Reports of Committees.

The Report of the late Treasurer was read, as follows, and on motion was referred to a committee of two to audit, consisting of C. B. Guthrie and T. S. Wiegand.

American Pharmaceutical Association in account current with J. H. Aspinwall, *Treasurer.*

1856.	DR.		
Sep.	Paid C. T. Carney for A. Geyer, see voucher No. 1.		$50 00
"	Filling certificates in Philada., " "		4 50
"	do. N. York, " "		1 50
"	Wm. Procter's order, " "		13 50
"	Executive Com. distributing Proceedings,		5 00
"	do. Circulars and postage,		8 75
"	do. Advertisements,		4 00
Nov. 13, 1857.	" Printing Proceedings, voucher No. 2,		135 92
Aug.	" Stamps, U. S.		4 25
"	" Filling certificates in N. York, voucher No. 3,		3 00
"	" Balance to Cr. in new account, viz:		
	due from Executive Com.	39 00	
	do. do.	12 00	
	Due from Treasurer in cash,	96 63	
			147 63
			378 05

1856.	CR.		
Sep. 8,	By balance from old account,		24 30
"	Amount rec'd. by Mr. Guthrie, see voucher No. 1, from 72 members for 1856, "		114 00
	" 3 " " 1855, "		6 00
	" 19 " " certificates, "		57 00
	Received by Executive Committee for 16 members,		32 00
	" from Charles Ellis, for Certificates,		48 75
Aug.	" by Executive Committee per E. Parrish,		39 00
Sep.	" by do. do.		12 00
	" by Treasurer in New York, from 15 members, see his cash account in book,		45 00
			378 05

Errors excepted. Jas. S. Aspinwall.
New York, September 7th, 1857. *Treasurer.*

Hennell Stevens, of Philadelphia, was proposed by the Executive Committee, and elected a member of the Association.

On motion, adjourned to meet at 9 o'clock to-morrow morning.

Third Day—Morning Session—Sept. 10*th*, 1857.

The Convention was called to order by the President. The Secretary called the roll, and read the minutes of the preceding meeting, which were adopted.

The attention of the Association was called by J. Meakim to the decease of one of its members, *Benjamin Canavan* of New York, in the following preamble and resolution, which were adopted and directed to be embodied in the minutes:

Mr. President,—While we have cause for thankfulness that during the past year the members of our Association generally have enjoyed health; it becomes my mournful duty to announce to you that death has removed from us since our last meeting one of our most valued members. Benjamin Canavan, of New York, died in October last from hemorrhage of the lungs. Although attending to his duties until the day preceding his death, he had been infirm for many months previous, which prevented his active co-operation with us. He was a model pharmaceutist, and one of the noblest works of God, an honest man.

As a tribute of respect to his worth, permit me to offer the following:

Resolved, That the members of this Association have heard with regret that death has deprived them of their fellow member Benjamin Canavan, of New York. In his death our science has lost an ornament, and our Society a useful and respected associate.

An invitation was received by the Local Committee, inviting the members to an excursion to Laurel Hill, Fairmount, and other places, which was considered, and on motion it was resolved to accept it, and that it take place to-morrow afternoon.

SCIENTIFIC REPORTS.

The consideration of scientific subjects being now introduced, the reports of special investigations referred last year were called up seriatim, beginning with the following;

1. What are the actual sources of the light Cod-liver Oil of American commerce, both as relates to the species of fish that yield it, and the places where it is extracted? Is it adulterated with sperm or fish oil? and if so, is it done by the producers or collectors, or after it enters commerce?

Robert R. Kent of Boston not being present, Charles T. Carney of Boston made the following verbal statement:

In relation to Mr. Kent's paper on cod-liver oil, I would say that he entered upon the investigations of this subject very soon after our last meeting in Baltimore, and during several months

of the last Fall and Winter he personally visited the fishing ground, and prepared from cod-livers of his own obtaining some very fine light oil, the most beautiful I ever saw. Mr. Kent made some quite singular discoveries in relation to the yield of this article from the livers; thus at one time the yield would be exceedingly large; and in a month, the same amount by weight of the livers apparently equally promising would yield scarcely any.

After collecting much information on this subject and many statistics, Mr. Kent was so unfortunate as to suffer the loss of his shop by fire, and his specimens, papers, &c. on this subject were destroyed. I would recommend the Association to allow this question to remain simply unanswered, and will express the hope that the ensuing year Mr. Kent may be able to re-collect his memoranda, and at the next annual meeting favor us with the result of his investigations.

The request of Mr. Carney was acceded to, and Mr. Kent encouraged to pursue the course indicated.

2. The substance known in commerce as New England Isinglass, is said to be made from the intestines of the codfish. Query—where, and by whom, is the article of commerce prepared, what process does it undergo, what portions of the fish yield it, and what amount is obtained from a single fish?

This question was fully reported on by Charles T. Carney of Boston, which was accepted, referred to the Executive Committee for publication, and the Reporter requested to continue his inquiries and report next year in reference to the isinglass produced by the sturgeon and other fish in the great fresh waters of northern North America. [See Scientific Reports and Essays.]

3. Has Iodine been manufactured in New England, from the Algaceous plants of that coast? If so, by whom, and to what extent? and what is the relative productive value of the Algæ of our own coast and those of Scotland?

H. T. Cummings, of Portland, to whom this subject was referred, said that last year, when about entering on the duty, he was informed that Thomas B. Porteus, of Boston, had already been engaged on that subject; that he saw Mr. Porteus, and urged him to prepare a paper in answer to the question of the Association, which he agreed to do, and he understood that the paper was in the hands of one of the Boston Delegates.

Mr. Colcord, of Boston, then made some remarks, showing that but little had been done in this country, owing to the difficulties of collecting the right species of sea weed—the iodine plants being those growing in deep water, always submerged, and only torn up from their native recesses by the violence of periodical storms, whilst those of the shore rocks contain but little iodine salts. He then read a long paper by Mr. Porteus, on the actual history of the iodine manufacture of Europe, giving all the details of manufacture, statistics, etc., wanted, to aid any who may feel disposed to enter on the production in this country.

The paper of Mr. Porteus was referred to the Executive Committee, and the thanks of the Association directed to be tendered to the author. [See Scientific Reports and Essays.]

An invitation was received from Peter Williamson, Esq., Grand Master of Masons for Pennsylvania, to visit their Hall, which was accepted for one o'clock this afternoon, with thanks for the courtesy.

Also, an invitation from Dr. Joseph Parrish, Superintendent of the Pennsylvania Training School for feeble-minded children, was accepted, and similarly disposed of.

4. The manufacture of Castor Oil as a branch of American industry. What is the estimated crop of beans for 1856, where grown, and what the amount of oil extracted up to August 1st, 1857? To what uses besides medicine is the oil put, and how far short of the domestic consumption is the production?

No communication having been received from Mr. Chamberlain, of St. Louis, to whom it was referred without permission, the subject was dismissed from the list.

5. It is said that Hyoscyamus niger has become naturalized in some parts of Michigan, in the neighborhood of Detroit. How does the medicinal power of this native grown plant compare with that of the best European grown drug?

This was reported on by F. Stearns, of Detroit, who read the report, and illustrated it with specimens of the plant, and several pharmaceutical preparations from it and the foreign leaves.

The paper was referred to the Executive Committee for publication. [See Scientific Reports and Essays.]

6. What is the actual state of the production of volatile oils in the United States, and more especially in Ohio, New York, and New Jersey.

as regards quantity, quality, and locality, together with remarks on the trade in volatile oils generally; their adulterations and tests.

This subject was accepted by E. S. Wayne, of Cincinnati, but no report being received, it was dismissed from the list.*

7. What measures, if any, have been taken to introduce the culture of liquorice root into the United States, and to what extent have they succeeded?

This paper was referred without permission to Mr. Laidley, of Richmond, from whom no report having been received it was discontinued.

8. Prof. Calvert, of Manchester, England, has asserted that the article known as "American lard," in the English market, is sometimes found adulterated to a considerable extent with the pulp of potatoes, or other starchy matter. *Query*—has this adulteration been noticed in the commerce of this country? If so, how is it most easily detected by chemical or other means?

This question was reported on by Prof. Grahame, to whom it was referred, and the report was referred for publication. [See Scientific Reports and Essays.]

9. Arnica flowers are largely used in the United States. Has any attempt been made to cultivate the plant in New York, New England, or other parts of this country, by the Shakers or others?

W. J. M. Gordon, of Cincinnati, reported on this subject and his report was referred to the Executive Committee for publication. [See Scientific Reports and Essays.]

10. The medicinal power of Cimicifuga is generally admitted, its use is increasing, it belongs to a natural family (Ranunculaceæ), embracing many active plants containing alkaloids, and yet the attempts hitherto made have not educed any distinct active principle. *Query*—to what distinct principle, if any, is the medicinal power to be attributed?

11. It has become proverbial that Digitalis of American growth has not the same amount of sedative power as the European leaf. *Query*—does American Digitalis yield a less proportion of digitalin than the imported, and is such digitalin equally active with that from the foreign plant.

These two questions were accepted by E. S. Wayne, of Cincinnati, from whom no response has been received. As Mr. Wayne had taken steps to produce these papers, and intended

* See Scientific Reports and Essays, this paper having been handed the Executive Committee since the adjournment.

to have been at this meeting, these queries were continued over to another year in his charge.

12. The Elaterium plant grows readily in Philadelphia. Can it be availably cultivated with a view to the extraction of its peculiar product; and does the Elaterium it yields compare favorably with the English drug?

Edward Parrish read the answer to this query, which was referred to the Executive Committee. [See Scientific Reports and Essays.]

13. According to the most recent researches on Ergot by Winckler, that chemist obtained an alkaloid from it, which he believes to be analogous, if not identical, with propylamin, the odorous principle of herring pickle. It is desired that the questions be determined, 1st, whether the volatile alkaloid of Ergot possesses the utero-stimulant power of the drug itself? 2d, Whether propylamin as obtained from herring pickle and from narcotin, possesses the same power as secalin? and 3d, in view of the result, what is the best formula for preparing a permanent fluid preparation of Ergot that will *fully* represent the drug?

W. Procter, Jr., made the report on this query, and exhibited specimens of muriate of secalin and fluid extract of Ergot. The paper was referred for publication to the Executive Committee, and the author requested to continue his attention to the subject, and report next year on those points not reached in the paper.

14. What is the correct history of the production of hemlock or Canada pitch, U. S. P., where chiefly produced, how extracted, and is it obtained by incision; also, where is the commercial oil of hemlock produced; is it the oil of the leaves; and what is the proportion yielded?

Charles T. Carney, reported verbally on this subject, that the information he was able to obtain was so unsatisfactory as not to justify him in making a written report. The oil of hemlock is obtained by distillation with water from the young boughs of Abies canadensis, but whence commerce is supplied or what is the yield of the leaves, he was not able to determine.

BUSINESS RESUMED.

It was on motion carried to suspend the further reading of scientific papers till the afternoon session, and proceed to the regular business.

The report of the Committee on the next decennial revision of

the Pharmacopœia, being in order, it was on motion considered by paragraph, as follows:

The Committee appointed in 1856 "To consider and report upon the expediency of the Association participating in the work of the next decennial revision of the Pharmacopœia," have given attention to the subject, and corresponded in relation to it during some months past, and, with the exception of the respected President of the Association whose sojourn in Europe has prevented our having the benefit of his counsels, we have agreed upon the following Report:

That we should have a part in the decennial revision of the Pharmacopœia is pre-supposed by the resolution under which we stand appointed, and is in fact generally conceded, but how the cumbrous machinery of a national organization can be adapted to a work requiring such constant comparison of views and so many precautions and experimental researches, claims, and has received, our deliberate consideration. As a result of this we are prepared to recommend the following propositions:

1st. That a Committee of ten (10) members, shall be appointed at the present meeting to represent the pharmaceutical knowledge and skill of the Northern, Southern, Eastern and Western States in a preliminary revision of the Pharmacopœia.

2d. The members of this Committee shall transmit to its Chairman, at least two months before the assembling of the Association, in 1858, such additions, modifications and omissions as a careful study of the Pharmacopœia, and their knowledge of the wants of their several localities, and of the profession at large, may suggest. From these the Chairman shall compile a report.

3d. At the meeting, in 1858, the report of the Committee of ten shall be received, but not acted on finally; it shall be referred to a Committee of three, elected by the Association, who shall thoroughly revise it, and subject each item to criticism and the test of experiment. They shall, at their discretion, omit or modify any of its parts, and make report at the meeting in 1859, when their proposed modification of the Pharmacopœia shall be finally acted on by the Association, and if adopted, directed to be forwarded to the Convention for revising the Pharmacopœia, to meet in Washington, in May, 1860.

4th. The Association not being included in the classes specified

as entitled to representation in the Pharmacopœial Convention, it is recommended that the report or the revision, after being adopted by it, shall be placed in the hands of the delegates from one of the Incorporated Colleges of Pharmacy, to be by them offered to the acceptance of the Convention.

Your Committee believe that whatever might be the fate of the modifications suggested in this way to the Convention and its Committee, good would undoubtedly result from a plan adapted to draw out so free an expression from the widely separated localities represented, and to subject these to a rigid examination in the hands of a competent Committee of revision.

Believing that this Association, representing, as it does, a large body of those for whom the Pharmacopœia is ordained, and who have no other channel through which to be represented in its revision, will naturally be looked to, in the future, to co-operate in giving authority to our National Code; and that the important interests it has in charge, generally, will be promoted by giving to its organization the sanction of law and such a permanence of location as will not entirely interfere with its migratory character; it is suggested that a charter should be obtained from Congress and a permanent depository established in Washington, D. C., at which Capital the meetings should be held at intervals of perhaps five years, the intermediate meetings being changed annually as at present.

These suggestions, though not strictly within the scope of this report, are induced by the prospect of a representation in the Pharmacopœial Convention, and are submitted for the consideration of the Association, by

EDWARD PARRISH, *Chairman.*
W. B. CHAPMAN,
SAML. M. COLCORD,
JOHN MEAKIM.

On motion the propositions numbered first and second were taken up, fully discussed, and adopted.

On motion, it was ordered that a committee to nominate ten members for a Pharmacopœia Committee, and report at a future sitting, be appointed by the Chair. This duty was entrusted to Frederick Stearns, W. Procter, Jr., and S. M. Colcord.

The propositions numbered third and fourth were, after con-

siderable discussion, laid on the table until the next annual meeting.

The Executive Committee now made the following Special Report in obedience to a duty referred to them last year:

At the last meeting of the Association, the Executive Committee were instructed to take such steps as seemed desirable to bring the subject of the appointment of Drug Examiners to the notice of the Secretary of the Treasury, at the incoming of the administration. In accordance with such instructions, the Committee addressed the following petition to the Hon. Secretary of the Treasury.

To the Hon. Howell Cobb, Secretary of the Treasury, Washington:—

Sir,—By resolution of the American Pharmaceutical Association at their last annual meeting, held in Baltimore, Sept. 9, 1856, the Executive Committee were directed to call the attention of the Hon. Secretary of the Treasury to the importance of the appointments under the Drug Law, of Special Examiner, at different ports.

We therefore beg to represent to the Hon. Secretary, that the Law (in our estimation of great importance) depends almost wholly for its beneficial results upon the officers who administer it at the several ports where drugs and medicines are offered for entry, and in the hands of such Examiners may be made efficacious or not, as shall be the *ability* and *integrity* of the incumbents.

These appointments being entirely of a scientific character, can have no connection with political matters, strictly speaking, and, therefore, when such posts are held by reliable persons, having the confidence of the Colleges of Pharmacy and apothecaries, who are clearly the most competent judges of such fitness and capacity, we trust they will not be removed to make room for new and untried applicants.

On the other hand, when, as may be the case, these posts are found to be held by such as do not enjoy the confidence of these natural guardians of the law, we trust removals may be made, and such appointments made as will place this important office in the hands of thoroughly practical men, whose qualifications may be certified to by these bodies, especially by the Colleges of Pharmacy.

April 14, 1857. [Signed.]

A similar petition was forwarded from the Massachusetts College of Pharmacy, backed by all the Medical Associations of the State, and also from Philadelphia.

We regret to say that these representations of the wishes of the apothecaries have not been heeded or noticed, and that, at least in the appointment at New York, a total disregard was had to all such requirements in the filling of that very important office.

There, a most efficient officer of long experience has been displaced, and the post filled by one totally unknown to the College of Pharmacy, apothecaries, or importers of the city, and who claimed the appointment solely upon the score of his political services and qualifications. The Committee feel constrained to protest in their own name, and in the name of the Association and the interests of humanity, against the prostitution of this wise and salutary measure to the mere purposes of political partizanship, and therefore recommend that the Association take such action as shall bring this matter before the next session of Congress for the purpose of so amending the law that it shall be protected from such management as nullifies its provisions.

C. B. Guthrie,
Edward Parrish,
Israel J. Grahame,
Chas. T. Carney,
W. J. M. Gordon,
Executive Committee.

On motion it was

"*Resolved*, That a Committee be appointed to memorialize the next Congress in the name of this Association, for such amendments to the drug law as shall place it upon a better basis, and make it a more effectual protection to the community and the interests of the apothecaries."

Then adjourned to 3 o'clock, P. M.

Afternoon Session.

The Association was called to order by the President at 3 o'clock.

On motion, a committee consisting of S. M. Colcord, W. Procter, Jr., and J. Meakim, was appointed, to examine and report on the various specimens and apparatus on exhibition in the Hall.

O. S. Hubbell, of Philadelphia, was proposed, balloted for, and elected a member of the Association.

A resolution offered by H. T. Cummings to provide for the better preservation of the documents of the Association was, on motion, laid on the table.

The Appeal to Druggists and Pharmaceutists in the United States in regard to the sale of Poisons, brought forward by the Committee on Poisons, was again read, adopted, and directed to be published in the proceedings,* and in the Medical and Pharmaceutical Journals as far as expedient.

The committee appointed to nominate ten persons to act as a Committee on the revision of the Pharmacopœia, as suggested in the report already adopted, reported the following, viz:

For the New England States—Charles T. Carney, of Boston; James Melvin, of Boston; and Henry F. Fish, of Waterbury, Connecticut.

For the Middle States—John Meakim, of New York; Edward Parrish, of Philadelphia; I. J. Grahame, of Baltimore.

West and North West—F. Stearns, of Detroit; W. J. M. Gordon, of Cincinnati.

Southern States—A. E. Richards, of Plaquemine, La.; Robert Battey, M. D., Rome, Georgia.

Who were accordingly appointed.

Samuel Chapman, of Philadelphia, was proposed and elected a member of the Association.

It was on motion Resolved, That the suggestion of the Executive Committee of the past year in regard to an act of incorporation from Congress for the Association, be referred to the Executive Committee.

D. L. Dyson, of Washington, presented a blank copy of the certificate of membership of the Pharmaceutical Association of the District of Columbia to the Association, on behalf of the body he represented, which was accepted.

SCIENTIFIC REPORTS.

The reading of scientific papers being in order, R. H. Stabler, of Alexandria, read an answer to the following question.

15. On what proximate principle does the anthelmintic power of Spigelia depend; is it volatile, and is the odor of the drug a good criterion of its

*See Reports of Committees.

quality: is said principle soluble in water; and what effect have the carbonated alkalies upon it?

The paper was referred to the Executive Committee for publication. [See Scientific Reports and Essays.]

16. Dr. Wright, of Kentucky, has recently recommended the bark of Liquidamber Styraciflua, as a remedy in diarrhœa and dysentery, made into a syrup with cold water. He likewise states that the resinous exudation which this tree produces at the South, is obtainable by incision from the tree in the States bordering on the Ohio river, and that the Kentucky product contains benzoic acid and Styracin. It is desirable to have the latter statement corroborated; and *if* verified, the per centage of benzoic acid it will yield, and the practicability of obtaining it as an article of commerce.

Valentine Harbaugh, of Washington, not having reported on this subject, Prof. Procter made a verbal statement that Daniel Hanbury, of London, had answered the question so far as to determine that the acid in this resin of liquidamber is not benzoic but cinnamic acid.

17. To what extent is the fecula of the Maranta arundinacea produced in the States of Georgia and Florida, and what impediments prevent its being made to rival that of Bermuda, in beauty and excellence?

This subject last year was referred, without permission, to Robert Battey, of Georgia, but no report has been received.

18. What are the most approved methods of rendering medicines palatable to the taste and pleasing to the eye?

Frederick Stearns, of Detroit, read a long and interesting report on this subject, illustrated by various specimens of glyceroles or syrups in which glycerin takes the place of sugar—remarkable for transparency and beauty.

This paper elicited many remarks, and was directed to be published in the proceedings. [See Scientific Reports and Essays.]

19. What are the present sources of Senega, Serpentaria, Spigelia and other prominent American roots, etc., as supplied in commerce?

C. B. Guthrie, to whom this subject was referred, not being ready to report, it was continued to him till the next annual meeting.

The Committee appointed to prepare a list of subjects for investigation, reported progress, and were requested to report in full in the morning.

On motion of Wm. A. Brewer, of Boston, it was ordered that a copy of the proceedings of this Association be addressed to each

of the Boards of Trade in our principal cities, to the several medical and scientific societies in the several States, and to the Smithsonian Institution at Washington, together with such educational institutions as the Executive Committee, who shall have charge of this matter, may direct.

Then adjourned to 8 o'clock this evening.

Evening Session.

The Association was called to order by the President at 8½ o'clock, who stated that the object of the meeting was chiefly for hearing extemporaneous and other communications.

Charles A. Heinitsh, of Lancaster, presented the notes of a case of strychnia poisoning, which were read, and after calling forth some remarks, were laid on the table.

On motion it was voted,—That the thanks of this Association be tendered to James T. Maxwell, of New York, for a handsome specimen of Myristica—nutmeg and mace—preserved in alcohol.

A paper was read by Edward Parrish, on "Ethical Analysis," which was accepted and referred to the Executive Committee. [See Scientific Reports and Essays.]

This paper elicited considerable discussion, and on motion it was Resolved, That the author be requested to answer the questions contained in it, and that other members be requested also to produce written answers at the next annual meeting.

It was moved and carried that the discussions for the remainder of this session be limited to ten minutes for each member.

Frederick Stearns read a paper on Citrate of Magnesia; also a paper on the production of leeches in Michigan; the latter illustrated by living specimens of two species of indigenous leeches, exhibiting the mode in which the young are developed on the abdomen of the parent.

These papers were accepted and referred for publication. [See Scientific Reports and Essays.]

The Chair appointed the following gentlemen as a Committee to memorialize Congress to amend the Drug Law, as determined yesterday: C. B. Guthrie of New York, Wm. A. Brewer of Boston, and Richard H. Stabler of Alexandria.

Wilson H. Pile, M. D., of Philadelphia, was proposed by the Executive Committee and elected a member.

On motion adjourned to meet at 9 o'clock to-morrow morning

Fourth Day—Morning Session—Sept. 11th.

The Association was called to order by the President.

This being the last session, it was moved and carried, that calling the roll and reading the minutes be dispensed with.

On motion of Edward Parrish it was Resolved, That a handsomely bound copy of "Dorvault's l'Officine" be voted to Frederick Stearns of Detroit, for his able paper "On Eligible Modes of rendering medicines palatable and pleasing," which was unanimously carried.

Elias Durand, of Philadelphia, was proposed by Charles Ellis, Wm. Procter, Jr., and Dillwyn Parrish for honorary membership. A ballot was held, which resulted in an unanimous election.

The Committee appointed to examine the various articles on exhibition to the Association, made the following report:

To the American Pharmaceutical Association :—

The Committee appointed in reference to the articles on exhibition to the Association, report, that they find a variety of chemical preparations, and chemical and pharmaceutical apparatus, together with numerous specimens of minor interest, arranged on the tables. The Chemicals from Messrs. Rosengarten & Sons include forty-one varieties, among which we would particularly notice Sulphate of Quinia, Nitrate of Morphia, Nitrate and Acetate of Strychnia, Valerianate of Morphia, Piperin, &c. Those from Powers & Weightman are particularly rich in alkaloids and their salts, among which are pint bottles of Codeia, Morphia, Cinchonia, Strychnia in crystals, Sulphate of Quinia, Morphia and Quinidia, in gallon and two gallon bottles, Caustic Potassa, Iodide of Arsenic, and beautifully crystallized Iodides of Lead and Mercury. Messrs. Garrigues, Magee & Mayer, exhibit Pyrogallic Acid, Bromide and Iodide of Cadmium, Bromide and Iodide of Ammonium, and Nitrate of Magnesia. Messrs. Bullock & Crenshaw's collection includes several of interest, as Bi-sulphuret of Tin, Oxides of Chromium and of Nickel, Sulphate and Carbonate of Nickel; Nitro-prusside of Sodium, and Molybdate of Ammonia. Hennel Stevens' group, though not numerous, is particularly *recherché*, consisting of Valerianic Acid, Valerianate of Ammonia, Amylene, Iodide of Ethyl and Iodoform. Dr. W. H. Piles' collection of Hydrometers and Specific Gravity Bottles attracted considerable attention. S. P. Peck, of Bennington, Vermont, exhibited specimens of Porcelain and Wedgewood Mortars and Funnels, of Vermont manufacture. Among the other objects of interest we observed a small Beindorf

apparatus; a Nichols' patent improved Combination Fountain, with draught apparatus and coolers, deposited by T. M. Perot & Co.; a beautiful block tin Still and Condenser, Gas-burners, Lamp stands, Lamps, &c., from Garrigues, Magee & Mayer, of Philada.; and a variety of Syrups, for mineral water, by E. H. Hance, of Philadelphia. The quality and beauty of a great proportion of the Chemicals exhibited demands our unqualified approval, and speaks well for this branch of American manufactures.

SAML. M. COLCORD.
W. PROCTER, JR.,
JOHN MEAKIM.

On motion, the report was adopted and referred to the Executive Committee for publication.

The following resolution, offered by John Buck of Massachusetts, was carried without dissent.

Resolved, That the thanks of the American Pharmaceutical Association be respectfully tendered to the Philadelphia College of Pharmacy, for the ample accommodations with which we have been provided, and the very agreeable manner in which we have been entertained.

The following was offered by Prof. Procter:

Whereas, the dispensing of medicines on the extemporaneous prescription of physicians is the most important of the duties of the pharmaceutist, involving a large amount of ready knowledge and skill, and as the demand for this knowledge is very frequently required at a moment's notice, when delay might seriously retard the recovery of the patient and impair the usefulness of the physician, and as the feeling of responsibility, at all times great, becomes often oppressively burdensome through the careless manner in which prescriptions are frequently written, and their quantities symbolized, it is hereby

Resolved, That this Association, speaking for the pharmaceutical profession of the United States, do most respectfully and earnestly desire that the grave importance of this deficiency, and the many evils which arise out of it in the dispensing of medicines, will claim anew the action of the Medical Societies of the United States, with a view to influencing those of their members to whom the charge applies; and while fully aware of the numerous imperfections which appertain to our own practices and practitioners, and which we are striving to overcome, we be-

lieve that the co-operation of physicians in the manner suggested will greatly aid our endeavors.

The resolution, after a spirited discussion, was adopted.

A paper on indigenous plants, by J. M. Maisch, of Philadelphia, was read, accepted and referred to the Executive Committee. [See Scientific Reports and Essays.]

Dr. Geo. B. Wood and Dr. Franklin Bache were proposed by S. P. Peck, W. J. M. Gordon and Chas. Ellis, for honorary membership, and unanimously elected.

The following resolution was offered by James Gordon:

Resolved, That the thanks of this Association are due, and are respectfully tendered to the President, for the efficient and impartial manner in which he has presided over our deliberations, to the Secretary for the able manner in which he has performed the arduous duties of his office, and to the late second Vice President for his attention to the duties of the chair during the organization of the meeting.

The resolution was adopted.

An invitation having been extended by S. E. Tyson of the Washington Delegation, to the Association, to meet next in that city, on motion of Prof. Guthrie, the following resolution was adopted:

Resolved, That the next meeting of this Association be held in the city of Washington, on the second Tuesday of September, 1858, at 3 o'clock, P. M.

The list of subjects for investigation during the ensuing year being now ready, they were read, with the names of the acceptors or referees, and adopted by the Association.

The Report is as follows:—

The Committee appointed to bring forward subjects for investigation during the ensuing year offer the following, viz:

1. The medical plants of Michigan.

Accepted by Frederick Stearns, of Detroit.

2. The process of displacement or percolation; what are the conditions and precautions which will give it the greatest simplicity and efficiency as a means of extraction in practical pharmacy?

Accepted by Prof. I. J. Grahame, of Baltimore.

3. What are the best means of keeping the vegetable extracts, and especially those from narcotic plants, in the dispensing shop, so as to

avoid to the fullest possible extent the inspissation and alterations to which they are subject by unavoidable exposure in dispensing?

Accepted by Prof. I. J. Grahame, of Baltimore.

4. Liebig (Agricultural Chemistry, American edition, page 184,) says that the nicotina of commercial tobacco does not pre-exist in the growing plant, but is the result of the fermentation set up during the curing process. Question,—If this be true, what is the active principle of green tobacco, and what relation does it bear to nicotina?

Accepted by Wm. Procter, jr., of Philad.

5. Wine of Ipecacuanha. What is the cause of its tendency to deposit a sediment—has that sediment any medical value—and can the deposition be avoided by substituting another menstruum of the strength of wine?

Accepted by Joseph Roberts, of Baltimore.

6. Blue pill mass is coming into use in the form of powder. Question,—Does the condition of the mercury undergo any change by the ordinary exposure in the shop, as regards oxidation—does this powder, after being prepared a year, contain any red oxide of mercury—and what is the best process for its preparation?

Accepted by Charles Bullock, of Philadelphia.

7. The subject of coating pills with sugar, mucilage, gelatin and other soluble substances, so as to mask their taste, is becoming of some importance in practical pharmacy. Question,—What are the best materials for this purpose; and what the best and most practicable process for effecting it, both on a large scale, and extemporaneously in the course of dispensing? *Accepted by John Canavan, of New York.*

8. The preparation of Saccharides, or sugar in the form of powder and granules, impregnated with medicinal substances, so as to facilitate their administration. What is the best process or processes applicable to this object; and what is the best proportion of sugar to include a dose of the respective drugs or preparations?

Accepted by Eugene Dupuy, of New York.

9. Mustard. What is the best formula for a permanent liquid preparation of white or black mustard seeds that may be used as a substitute for mustard plasters?

Accepted by Edward Parrish, of Philadelphia.

10. Podophyllin is alleged to be analogous to Jalapin in its medical and some of its chemical relations. Question,—What is the correct chemical history of Podophyllin, as regards its solubility in menstrua, its relations to the alkalies, and other agents, &c., and why may it not be advantageously substituted for extract of jalap in the compound cathartic pill, and for scammony in the compound extract of colocynth?

Accepted by R. H. Stabler, M. D., of Alexandria.

11. Dr. Stenhouse has investigated the volatile oil and stearoptine of

Xanthoxylum piperitum or Japanese pepper. (See Am. Jour. Pharm. Sept., 1857.) Question,—1. What is the true botanical source of what is called "Southern Prickly Ash bark?" 2. Does the pungency of that bark and the bark and fruit of Xanthoxylum fraxineum of our Pharmacopœia depend on the same principles?

Referred to Edward S. Wayne, of Cincinnati.

12. What influence is exerted in the *normal* solvent power of officinal water, alcohol and ether, by their admixture with each other as pharmaceutical menstrua, in regard to the solution of various vegetable principles, (like gum, sugar, starch, albumen, resins, volatile oils, etc.,) desirable or to be avoided in making preparations?

Accepted by Wilson H. Pile, M. D., of Philadelphia.

13. A monograph on the Cerasus serotina, or wild cherry bark, tree and its products useful in medicine.

Accepted by Wm. Procter, Jr., of Philadelphia.

14. The Brazil nut of South America yields a fixed oil in abundance. Question, How and to what extent is it manufactured in Brazil, to what uses put; and whether, is it applicable or not to the uses of olive oil in Pharmacy? *Accepted by Edward Donnelly, of Philadelphia.*

15. Are the barks of Cornus florida and other species of this genus, due to a crystalline substance? Is this principle alkaline, acid or neutral? Will it answer as a substitute for Quinine? and can it be advantageously manufactured at a low price?

Accepted by John M. Maisch, of Philadelphia.

16. There being great diversity in practice as regards the powder to be employed in rolling pills:—Question, What is the best powder or compound of powders, uniformly to be used in rolling pills, not required to be masked or coated with sugar, gelatin, or other substance?

Accepted by William A. Brewer, of Boston.

17. The refraction of light by the English Essential Oil of Bitter Almonds being often regarded as an important proof of its purity:—Question, What is the value of this phenomenon of iridescence of Essential Oil of Bitter Almonds as a test of its purity?

Referred to John T. Fuller, of Detroit.

18. What is the correct history of the production and sources of supply of Hemlock or Canada pitch, of Balsam of Fir, and of Oil of Hemlock; and to what extent are they produced in the New England States and Canada? *Accepted by S. P. Peck, of Vermont.*

19. The Elaterium plant grows readily in the neighborhood of Boston. Can it be availably cultivated with a view to the extraction of its peculiar product, and does the Elaterium it yields compare favorably with the English drug in medicinal power.

Accepted by John Buck, Chelsea, Massachusetts.

20. To what extent is the fecula of Maranta arundinacea produced in Georgia, Florida, and other Southern States, and what impediments prevent its being made to rival that of Bermuda in excellence and beauty.

Continued to Robert Battey, M. D., of Rome, Georgia.

21. What is the extent of the culture and production of sugar from the Sorghum saccharatum within the U. S. in the present year; what inference may be drawn therefrom of its value as a source of this important article; and what is the composition, and saccharine per centage of the juice compared with that of the sugar cane.

Referred to Robert Battey, M. D., of Rome, Georgia.

22. What are the present sources of Senega, Spigelia and other prominent American roots, etc. as supplied by commerce?

Continued to Prof. C. B. Guthrie, of New York.

23. What is the actual state of the production of volatile oils in the United States, and more especially in Ohio, New York, and New Jersey, as regards quantity, quality and locality; together with remarks on the trade in volatile oils generally?

Referred to Edward S. Wayne, of Cincinnati.

24. What is the practical value of nitro-prusside of copper, iodine and other tests which have been proposed for detecting the adulterations of volatile oils? *Accepted by John M. Maisch, of Philadelphia.*

25. Can arnica flowers be profitably cultivated in the United States? *Suggested by resolution of the Association to Henry A. Tilden, Esq., of New Lebanon, New York.*

26. The Silphium laciniatum or resin weed of our western prairies yields a resinous exudation in appearance like mastic. What is the character of this resinous product, can it be substituted for mastic, and to what extent may it be collected as an article of commerce?

Accepted by Edwin O. Gale, of Chicago, Illinois.

27. What are the present sources of American Castor and the method of preparing it for commerce? *Accepted by T. R. Spence, of Detroit.*

28. The subject of the professional intercourse between physicians and pharmaceutists. *Accepted by Samuel M. Colcord, of Boston.*

29. What are the actual sources of the light Cod-liver Oil of American commerce, both as relates to the species of fish that yield it, and the places where it is extracted? Is it adulterated with fish or sperm oil? and if so, is it done by the producers or collectors, or after it enters commerce?

Continued to Robert R. Kent, of Boston. (*See page* 492.)

30. What are the impediments, if any, to the extensive culture of the liquorice plant (Glycyrrhiza glabra) in this country; and what essays have been made towards its introduction?

Referred to Thomas P. James, of Philadelphia.

31. It is well known that many pharmaceutial preparations deteriorate by keeping: what are the most prominent instances of this kind of change; what are the best means of preventing or moderating them; and in cases of partial deterioration of valuable medicines, what is the best disposition to be made of them to avoid loss?

Accepted by Edward Parrish, of Philadelphia.

32. Are any of our native wines applicable for use in pharmacy as a menstruum; are these wines the subject of adulteration; and can the brandy derived from our native wine growers be properly substituted for the *Spiritus Vini Gallici* of the Pharmacopœia?

Accepted by Frederick Stearns, of Detroit.

The Committee recommend that the Executive Committee be empowered to add to the above list of subjects in case they can get them accepted for investigation.

WILLIAM PROCTER, Jr.
EDWARD PARRISH.

On motion it was Resolved, That the Chairman of the Committees On the Preliminary Revision of the Pharmacopœia, and on "Home Adulterations," shall have power to draw on the Treasurer for the expenses incident to their labors.

Oliver F. Gordon, of Cincinnati, was proposed and elected a member of the Association.

Henry F. Fish, of Connecticut, having been obliged to return home from indisposition, before he had communicated to the Association some remarks relative to lacs and varnishes; on motion, it was voted that he be authorized, if disposed, to send his communication to the Executive Committee for publication.

Theodore Metcalf, of Boston, proposed by the Boston delegation, and recommended by the Executive Committee, was balloted for and elected to membership.

On motion of Edward Parrish, it was

Resolved, That the Executive Committee be authorized, after furnishing at least three copies of the Proceedings to each member, and distributing such number as they may deem best, to scientific Institutions, Editors, Libraries, &c., to hold the balance for sale at such price as shall cover the cost of publication and postage.

The Minutes were now read, and by vote adopted, the Roll was called, and, on motion, the Association adjourned to meet next year in accordance with previous resolution.

W. J. M. GORDON, *Secretary.*

ROLL OF MEMBERS IN ATTENDANCE AT THE SIXTH ANNUAL MEETING.

Henry T. Cummings, of Portland,
Charles A. Tufts, Dover, N. H.
S. P. Peck, Bennington, Vt.
Henry F. Fish, Waterbury, Con.
Samuel M. Colcord, Boston, Mass.
Charles T. Carney, Boston, Mass.
William A. Brewer, "
James Gordon, "
Anthony S. Jones, Newburyport, Mass.
John Buck, Chelsea, Mass.
John Meakim, New York city,
Eugene Dupuy, "
John Canavan, "
Frederick Hale, "
H. T. Kiersted, "
C. B. Guthrie, "
Henry Haviland, "
John Faber, "
George W. Berrian, Jr., "
George W. De la Vergne, "
H. A. Blauw, Rochester, N. Y.
Peter V. Coppuck, Mt. Holly, N J.
Charles Ellis, Philada.
Samuel F. Troth, "
Dillwyn Parrish, "
Ambrose Smith, "
William Procter, Jr., "
Alfred B. Taylor, "
Edward Parrish, "
Samuel S. Garrigues, "
Frederick L. John, "
Louis M. Emanuel, "
Thomas P. James, "
Samuel S. Bunting, "
Charles Bullock, "
Thomas S. Weigand, "
Samuel N. James, "
Evan T. Ellis, "
Bradford Ritter, Philada.
William H. Pratt, "
Charles H. Eggert, "
Edward Donnelly, "
T. Morris Perot, "
H. Steiner, "
Hennell Stevens, "
O. S. Hubbell, "
Samuel Chapman, "
Wilson H. Pyle, "
John M. Maisch, "
George Cooke, "
Thomas Lancaster, "
Asher S. Leidy, "
Edward H. Hance, "
William R. Warner, "
William Heyser, Jr., Chambersburg, Pa.
Charles A. Heinitsh, Lancaster, Pa.
Henry N. Rittenhouse, Wilmington, Del.
Israel J. Grahame, Baltimore,
J. Jacob Smith, "
J. H. Lemmon, "
Joseph Roberts, "
J. F. Moore, "
James Balmer, "
N. H. Jennings, "
James N. Callan, Washington city.
S. E. Tyson, "
Daniel B. Clarke, "
D. S. Dyson, "
R. H. Stabler, Alexandria, Va.
A. E. Richards, Plaquemine, La.
W. J. M. Gordon, Cincinnati, O.
J. W. Dietrich, Dayton, Ohio.
William Fiske, Cleaveland, O.
Frederick Stearns, Detroit, Mich.
Washington Laycock, "

REPORTS OF COMMITTEES.

REPORT ON WEIGHTS AND MEASURES.

A history of the origin of our system of weights and measures would be curiously interesting, and no doubt a pleasant paper to read before this Association, had one the time to prepare such an article, and the ability to do it justice. The Hon. John Q. Adams, when Secretary of State, wrote such a paper, and it is said to have cost him four years' labor; and as long as that paper can be had by such as are interested in the subject given the committee they will not bring their puny labors in view by any attempt to discuss that part of the subject; though in the range which they have given to the resolution under which this report is offered, it would be both legitimate and proper.

It is not our intention, therefore, neither is it in accordance with the aim of this report, to go into a discussion of this subject.

A glance at some of the most prominent points may, however, not only interest us, but possibly cast some light upon the path of any who may shrink from the sacrilegious work proposed by us of destroying present usages and setting up new ones, as showing that this subject has not escaped the notice of scientific men in all ages, and shrewd law-givers in all countries, who have endeavored to improve it from time to time. This fact marks it as one of great importance, and having its ramifications through all branches of trade and commerce, wherever man has a home, or traffic an existence. "A just balance, just weights, a just ephah and a just line shall ye have," said the law as given from Sinai. "Thou shalt not have in thy bag divers weights, a great and a small; thou shalt not have in thy house divers measures, a great and a small," and a standard for these weights and measures was kept in the ark of the covenant, to which the people were obliged to conform in their dealings with each other. Josephus relates the fact that Cain the tiller of the land made weights and measures, though it is not mentioned in Scripture. The Greeks and Romans had their system of weights and measures, and though differing from each other, they had this similarity of being of two

kinds; one, that for wine and oil, being determined by weight, and another for dry substances by measure.

Various and peculiar methods were at different times adopted to arrive at fixed standards or units, some of them curious and more to be remarked for their ingenuity than accuracy.

Coming down more within reach of what has probably affected our own times, we find the English monarchs setting forth certain weights as standards, and an ordinance of Henry III. in 1225, "ordained that there should be uniformity," as the want of this seemed at that period to be a source of great complaint.

The weight of money, silver at least, was at this period determined in what would seem to be a primitive style. Thus in 1266 the English penny was "ordained to weigh thirty-two wheat corns in the midst of the ear." The importance of settling the weight of the penny, was the greater from the fact that it was a unit of weight as well as value.

The various enactments do not, however, seem to have produced that desirable result, *uniformity*, and we find in the "Magna Charta," England's declaration of independence, this sentence, "there shall be one weight, one measure, and one coin in the realm."

In 1790, France took up the subject and made a vigorous effort, inviting the co-operation of various neighboring countries to establish a "uniform system of weights and measures." Unfortunately, England did not respond, or we might have had different results from such great efforts and so much labor.

The differences between the weights and measures in use led England again, in 1816, to another attempt to fix upon some standard, and Parliament ordained, "the gallon for *liquid* and dry measure should contain ten pounds of pure water at the temperature of 56½° Fahrenheit's thermometer, and be of the measure of 276.48 cubic inches."

Other States have fixed the measure of the gallon thus, Pennsylvania has the wine gallon of 231 cubic inches, and her bushel is to hold 78 pounds 12 oz. avoirdupois, of Schuylkill water.

In New York the bushel is to contain 80 lbs. of *distilled* water, and the measure of bushel and gallon differs as to weight in almost every State, especially in dry measure, each following their own arbitrary rule.

When a resolution for a report upon the subject of weights and

measures was offered at the last sitting of this Association, the object chiefly aimed at was to elicit information upon the subject of the condition of the weights and measures in daily use by the apothecaries in the United States.

It required but a very superficial examination of the subject to satisfy your Committee that there existed great inaccuracy and want of uniformity in the weights and measures in use by our dispensing apothecaries; and even where government has undertaken the preparation of their own chemicals, they have not been able to furnish their employees with a standard set of weights and measures for their use, for we believe we have none, or at least not such as are available for chemical uses.

Having no government standard to which our own manufactures can be brought for a test, and most of the scales and weights in use in this country being of foreign manufacture, this want of correctness and uniformity is an evil, however great, not easily reachable by any means within our individual scope or power.

This investigation resulted, early in our labors, in the conclusion that the question most important to be by us determined or considered, was not the *why*, but the *how* this reformation in weights and measures is to be accomplished; for it will not fail to strike any one at once as an impossibility to expect, much less to attain, that accuracy and uniformity that our profession as dispensing pharmaceutists absolutely demands, so long as we import from the coarse manufacturers of Germany, and the careless ones of France, scales, weights and measures, all of them differing the one from the other, as much as they differ in fashion and price.

Our medical brethren, who also rely upon their apothecaries' weights, have the same reason to complain, for the weights are almost *universally incorrect;* and to such of them as are obliged from their locations to be their own apothecaries, the evil is a very great one.

Inasmuch, therefore, as we have a necessity before us to do something to reform this part of our business, it affords us a rare and most excellent opportunity to go a step further, and introduce some new features in weights and measures, more in accordance with the genius of this country and that march of progress that is the spirit of the age in which we live.

We all understand that two sets of weights are used by the apothecary in his daily transactions—the avoirdupois by which

he buys and sells all quantities bought and sold by the pound or ounce; the other, the apothecaries' weight, as it is called, by which he dispenses or portions out medicines for purposes of compounding them or dispensing them as remedies. Why this division was ever made, it is not our purpose to stop here to enquire. Upon this scale of weights, sometimes called Troy, all our Pharmacopœias are based in their designation of quantities, (a fact not yet known or at least acted upon in practice at all times, for we have known those who called themselves respectable apothecaries, who used the avoirdupois pound and ounce to compound preparations; and there are medical men holding diplomas from respectable schools, who cannot give you the difference between the avoirdupois and apothecaries' ounce or pound.)

The avoirdupois pound consists of 16 oz. of 437.5 grains each, or 7000 to the pound, while the apothecaries' has 12 oz. to the pound of 480 grains each, or 5,760 gr. to the pound. Not only do we find this difference between two weights in daily and hourly use, but they both differ again from the officinal measure, which in turn again differs from other measures in common use; thus confusing and confounding all new beginners, and oftentimes sadly perplexing the experienced in their attempts to harmonize the differences so often occurring in business.

Your Committee propose for the consideration of the Association the substitution of a decimal system of weights and measures, in place of the various systems known as apothecaries', avoirdupois, &c.

This decimal system is, to our minds, so great an improvement, that though fully aware of the immense labor necessary to substitute it for the others now in use, yet we deem it fully worthy of the trial. The labor saved in all the various operations in the laboratory will be almost incalculable, and the immense saving in computations of all kinds in commercial transactions cannot be counted.

For the main features of this system we are indebted to M. Lefferts, Esq., whose able report, as chairman of the Committee of the New York Chamber of Commerce, we have used, as well as the tables for illustrating our position.

We take, first, weights. We find, as before remarked, three systems in daily use—the Troy, Apothecaries' and Avoirdupois,

no one of them having any thing in common with our system of currency, or indeed with any thing recognized as American—but being a mere list of equations composed of odd numbers, and encumbered with fractions.

"The Troy and Apothecaries' pound has 5760 grains to the pound.
The pound Avoirdupois, . . 7000 " " "

We propose to supersede these three orders of weight, by the establishment of one; the unit of which is the standard pound *avoirdupois*. The scale of weights is as follows:

10 grains	. . .	=	. . .	1 scruple.
10 scruples	. . .	=	. . .	1 dram.
10 drams	. . .	=	. . .	1 ounce.
10 ounces	. . .	=	. . .	1 pound.
10 pounds	. . .	=	. . .	1 stone.
10 stones	. . .	=	. . .	1 hund. wt.
10 hundred weights	.	=	. . .	1 ton."

In this scale the *avoirdupois pound* and the *one hundred pounds* are retained, being the same as in our present system. The pound avoirdupois being the unit, and the subdivisions being made only in lesser quantities.

Thus the grain is the 10,000th part of a pound, instead of the 7000th. The ton, though, is changed and definitely fixed at 1,000 lbs., instead of the indifferent number ranging from 2000 to 2,240 pounds as now, which all must agree to be an improvement in *uniformity* if in nothing else.

We take next measure of capacity. We have now in common use, *four*, viz: Wine, Beer, Troy and Apothecaries' measure.

We not only have the difference in these different measures, but the measures themselves differ, some of them at least, in different countries.

In the decimal system they are all brought into one, the gallon being the unit, and serving not only for a standard in measure of capacity, but also in weight.

We offer the standard taken from the report before referred to, only altering the name of one aliquot part, that of the gill. Here we prefer the term *ounce*.

The standards now established by law will remain unchanged in all cases except one—that is the gallon; we require that this

measure shall contain exactly 10 pounds avoirdupois of distilled water. Thus we have

10	grains	.	.	.	=	.	.	.	1 scruple.
10	scruples	.	.	.	=	.	.	.	1 dram.
10	drams	.	.	.	=	.	.	.	1 ounce.
10	ounces	.	.	.	=	.	.	.	1 pint.
10	pints	.	.	.	=	.		.	1 gallon.
10	gallons	.	.	.	=	.	.	.	1 anker.
10	ankers	.	.	.	=	.	.	.	1 ton.

Here the gallon is the standard unit; it corresponds with the gallon dry measure of the State of New York, and differs but little from the ale gallon now used. The pint on this scale is as nearly as possible equal to the pint wine measure.

We have here a standard, the gallon consisting of 10 lbs. distilled water, which we make the unit for measure as we make the pound avoirdupois the unit for weights; and though many have supposed that some more scientific method should be adopted to obtain a standard as a starting point, and France has expended a vast amount of time and means for that purpose, we have authority as old as the Romans for adopting the gallon of 10 lbs. and the bushel of 80 lbs., as that was the Roman amphora, though their liquid measure was 10 metrical pounds of wine.

Other measures or methods were adopted, such as cubing the foot, or taking aliquot portions of certain measurements of ships. And again, the gallon measure was ascertained by the number of grains of wheat it held, and the measure of capacity for wheat was determined by that of weight for wine, and *vice versa*. We see no objection in weights to the unit of the pound avoirdupois for a standard of weights and of the gallon for measure, and uniting the two, from them deduce all our divisions and therefore adopt them.

We have then this beautiful uniformity of weights and measures, thus:

1	grain in weight	.	.	=	.	.	1	grain in measure.
1	scruple	"	.	.	=	.	.	1	scruple	"
1	dram	"	.	.	=	.	.	1	dram	"
1	ounce	"	.	.	=	.	.	1	ounce	"
1	pound	"	.	.	=	.	.	1	pint	"
1	stone	"	.	.	=	.	.	1	gallon	"
1	hundred weight	.	.	=	.	.	1	anker	"
1	ton	"	.	.	=	.	.	1	ton	"

This result is one important step towards the attainment of uniformity where *one scale of weight*, of which the pound is the standard, answers for all purposes of weight; *and one scale of capacity measure*, where the gallon is the standard, answers all purposes of measure.

The balance of the tables naturally offering themselves, such as Linear, Land Scale, Numeral, not coming strictly within our aim, we shall pass by, only saying they harmonize equally well.

The difference then between our present system, if system it can be called and the decimal system, may be thus contrasted.

Old.				*New.*			
20 gr.	=	℈1 or 20	gr.	10 gr.	=	1℈ or 10	gr.
3℈	=	ʒ1 or 60	gr.	10℈	=	1ʒ or 100	"
8ʒ	=	℥1 or 480	gr.	10ʒ	=	1℥ or 1,000	"
12ʒ	=	℔1 or 5760	gr.	10℥	=	1℔ or 10,000	"

The same number of multiples, but how much more simple and easily comprehended, and how obviously more easily remembered and brought into practice. How beautifully, moreover, does it correspond with our currency.

Applying the same comparison to our avoirdupois weight, how striking the contrast.

437.5 gr.	=	1 oz. or 437.5 gr.		1000 gr.	=	1 oz. or 100	gr.
16 oz.	=	1 ℔ or 7000 gr.		10 oz.	=	1 ℔ or 10,000	"

When we shall have established this system, we shall no longer have a necessity to teach the difference between the two weights put into the hands of the beginner, instructing him that the officinal ounce contains 42½ grains *more* than the avoirdupois, while the officinal pound has 1240 grains less, and all those other mere arbitrary rules and divisions.

The drop as a unit, and the minim are left out entirely, as the extreme uncertainty in the use of either renders them useless.

In liquid measure then, as compared with what is now known as officinal measure, we have the following difference:

60 min.	=	f.ʒi.	or 60 min.	equal to	56.9	gr.	by weight
8ʒ	=	f.℥i.	or 480 "	"	455.6	"	"
16 oz.	=	f.Oi.	or 7680 "	"	7291.1	"	"
Oviii.	=	1 gal.	or 61.440 "	"	58328.8	"	"

In the decimal scale:

10 grains	1 scruple,	or	10	grains.
10 scruple	1 dram,	or	100	"
10 drams	1 ounce,	or	1,000	"
10 ounces	1 pint,	or	10,000	"
10 pints	1 gallon,	or	100,000	"

We need not pursue the comparison in imperial measure, as this is sufficient to illustrate our purpose and make sufficiently clear the difference between the two systems; the one the mere rule of arbitrary divisions, the other running in measure and harmony with our unequalled currency.

The ease of computing prices when we come to have the denominations of ounces and their subdivisions to correspond with the currency, we need but call to your mind.

The immense amount of time spent in puzzling over vulgar fractions, and all other similar numbers incident to our commercial system, needs also only to be mentioned to make apparent the great gain in adopting a decimal system.

That this plan is open to objections, and those of a character not readily overcome, we do not deny; but they exist in the already formed habits of our people, and their adherence to common usages in preference to new ways, rather than in the system itself, which in its very simplicity is unequalled.

The great difficulty will be, not in our commercial transactions, but in bringing about the change in the compounding and prescribing of medicines.

Our medical brethren are the ones upon whom we shall be obliged to call for co-operation and aid to insure success.

The system met in France with almost its only success with the medical men and apothecaries, and a great many of the former in New Orleans write their prescriptions entirely in that form even now, and we can not but believe they will respond cheerfully to the call among us.

Much has been said of the French system, and as it is not well understood, we think, in this country, a partial synopsis of it may be interesting, and the two will the more easily be compared. Their system was as follows:

1st. All weights and measures should be reduced to one *uniform* standard of linear measure.

2d. This standard should be an *aliquot* part of the circumference of the globe. In determining this, three natural standards were taken by the Scientific Committee, viz.: the pendulum beating seconds, a quarter of the equator, and a quarter of the meridian. They finally chose the last, a quarter of the meridian, and proposed that its ten millionth part be taken as the standard unit of linear measure. The pendulum beating seconds on the 45° latitude was assumed as a standard of comparison with it, and that the weight of distilled water at the point of congelation measured in a cubical vessel in decimal proportion to the linear standard, should determine both the standard of weight and the vessels of capacity. More than seven years were spent in the different operations to determine these points; other points were also set forth.

3d. That the unit of linear measure applied to matter in its three modes of extension, length, breadth, and thickness, should be the standard of all measures of length, surface and solidity.

4th. That the cubic contents of the linear measure in distilled water, at the temperature of its greatest contraction, should furnish at once the standard weight and measure of capacity.

5th. That for every thing susceptible of being measured or weighed there should be only one measure of length, one of weight, and one measure of contents with their multiples and subdivisions exclusively in decimal proportions.

This decimal division to be applied to every thing in currency and commerce, geography, astronomy, the log line, thermometers, in short every thing in human existence, that the whole system should be equally suitable to the use of all mankind.

It was a grandly conceived project, and had its failure in the ignorance of the people to whom it was addressed, and the incongruities incorporated in it by too much science, and an effort to engraft a sprout of infidelity upon the whole in substituting a new division of time; and though they retain the twelve months, they made each to consist of thirty days each, or three times ten. After various contests with the prejudices and obstinacy of the people, in 1812 an imperial decree was issued, which, while it retained the units of the new weights and measures, allowed of their division in other than decimals, *and thus it now stands.*

Those who think our people more likely to accept the French

system than the simple decimal proposed, will alter that opinion when they contrast the nomenclature of the French with the one proposed. The French is very beautiful in theory and sound, and calculated to charm a classical man, but there are few such in trade or engaged in commerce. We give the theoretical divisions as follows:

To express the weights and measures growing out of these units as multiplied, the Greek words signifying 10, 100, 1,000, 10,000, were prefixed, while their division into like numbers as 10, 100, &c., was expressed by similar Latin syllables. Thus:

Millimetre, 0,001; Centimetre, 0,01; Decimetre, 0,1; Metre, 1; Decametre, 10; Hectometre, 100; Kilometre, 1,000; Myriametre, 10,000.

Any one will perceive at once that this could never be reduced to practice in our country, while the retention of the old names to which we are accustomed would meet with but little opposition.

But we will not pursue the subject further, and submit this paper to the Association with the hope that the subject will receive at your hands that attention and consideration due alike to the intelligence and character of the body itself, and to the great importance of the subject of which we have treated.

The reform will not be the work of to-day, perchance not of our day, but it will be made in due time, for it will be a demand of the age; and generations to come will bless the labors of such as shall be instrumental in conferring so great a boon upon their youth.

C. B. Guthrie, M. D., *Chairman.*
Charles T. Carney,
Samuel S. Garrigues.

REPORT ON THE SALE OF POISONS.

The Committee appointed to Report on the "Subject of the sale of Poisons by pharmaceutists and others, and the legal means of restraining it," respectfully beg leave to submit the following Report.

In making this Report they feel that much caution is required in approaching a subject on which the opinions of the pharmaceutical profession so widely differ, as to which is the most pro-

per means to be adopted in regard to the regulations for the sale of poisons by pharmaceutists and others.

The interest connected with this subject has been much increased, within the last year or so, from the very numerous cases of criminal and accidental poisoning which have occurred in this country and England, and we now find that the public mind, generally, has been directed by the medical journals and the general newspapers to some regulations which will require a more guarded attention to the sale of poisons.

One who has examined the subject says: "That it is desirable to plan some check upon the facilities for obtaining dangerous substances, and to adopt the most effectual precautions that can be devised against accident in the use of domestic medicines, is a proposition which admits of no dispute; and it should be the primary object of any measures which may be introduced for the purpose, to increase the difficulty of criminal poisoning without needless interference with the prerogative of the medical profession, the requirements of art and science, and the general convenience of the public."

As regards any direct legislation upon the sale of poison, as we before mentioned, there appears to be a diversity of opinion. It is maintained by some, that by thus making restrictions upon the sale of a certain series of poisonous drugs or preparations, the attention of the public is called to the various substances placed under the restrictions; thus making them acquainted with their poisonous qualifications, and giving those so disposed an opportunity of using the means thus pointed out to them. There appears to be some force in the argument; the point of it, however, is turned aside by framing a law which should generalize poisons, not particularize them. In this way it has been proposed that those substances, solid or liquid, which are fatal to life, in doses of 60 grains by weight, or of one fluid drachm by measure, should be considered in the eyes of the law and of the pharmaceutist as poisons. This would generalize them; they in this way are not mentioned by name, and yet the intelligent pharmaceutist has a safe guide to follow in his dispensing of poisonous substances.

It has been urged on the other side, that, by the passage of a law restricting the sale of poisons, greater difficulties would be

thrown in the way of the poisoner, and opening a way to his more ready conviction.

As far as the knowledge of the Committee goes, it appears that since the last report made to the Association, no State legislation has taken place, in regard to any restrictions in the sale of poisons. The Committee are under the impression that if there appeared a necessity for a "poison law," it could best be promoted by a memorial, addressed to the Legislatures of the several States, to be presented by the prominent pharmaceutists of each State, such a memorial to contain a draft of such a law as the Committee, or the American Pharmaceutical Association, deem most suitable to the wants of the American people.

The Committee are of the opinion that the method of keeping certain series of poisons, many of which are of constant use, under lock and key, is one that would interfere much with the convenience of the pharmaceutist, and would not ensure that safety which is proposed to be gained by the arrangement. From the few facts that have been previously mentioned, it would seem that legislation on this subject has always been looked on, by practical men, as a difficulty, never having aimed at superseding the judicious use of the senses, by legislation, or precautions no less complicated than ingenious.

In examining the various cases of accidental poisoning which have occurred, from time to time, it will be observed that, in a large proportion of the cases, the accident may be attributed to the sale of poisons by incompetent persons, or the neglect of some ordinary precaution, such as labelling the bottle or giving proper instructions as to the dose.

The following extract from the *Times*, of May 22d, is also quite applicable to our case, drawing our attention to the most important and practical aspect of the question:

"We place much reliance upon the gradual extension of scientific and general intelligence among the druggists as a class, and regret that the trade cannot be brought under more stringent regulations; for no restraint of police or statutory check would be so efficient as that check and that restraint which educated druggists would themselves supply. It is not absolutely necessary for the public convenience that deadly substances and drugs should be sold at every village shop, and we think some pro-

vision for confining the sale of such articles to properly accredited establishments might be introduced with advantage.

With this, the Committee close their report, being under the impression that the accompanying appeal is the most appropriate to recommend at this time.

SAMUEL S. GARRIGUES, *Chairman*,
FRED. STEARNS,
A. E. RICHARDS.
A. P. MELZAR,
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On behalf of the Committee.

APPEAL TO DRUGGISTS AND PHARMACEUTISTS IN THE UNITED STATES IN REGARD TO THE SALE OF POISONS.

The American Pharmaceutical Association, at the suggestion of a committee appointed by it to report upon "*the subject of the Sale of Poisons*," does respectfully submit to the Pharmaceutists and Druggists of the United States the following suggestions :

From the diversity of opinion among Pharmaceutists in relation to the value and force of direct legislative action in restricting the sale of poisonous substances, the Association does not deem it desirable to attempt at present the passage of laws in the different States bearing upon the subject ; but in place, offers to the Pharmaceutist such suggestions as are deemed expedient under existing circumstances.

The Association suggests, That the Pharmaceutist should adopt rules in dispensing of poisons, by which he may remove from himself the responsibility of selling poisons for disreputable purposes, and protect the public, both from mistakes occurring in his own premises, and from the use of poisons for unlawful and criminal purposes.

The Association therefore offer the following suggestions :

That, in selling any substance which would prove fatal in a dose of 60 grains by weight, or a fluid drachm by measure, you consider it *poisonous*, and mark the word "poison" in a distinct and unmistakeable manner upon the label or package.

That you consider the poisonous alkaloids and the like powerful substances *deadly poisonous*, and so mark each package or label.

That you make it an invariable rule, to have every package of medicine dispensed at your counter plainly marked, whether it be an innocent or poisonous one.

That you, for the purpose of distinguishing by the aid of color as well as words, have the labels of the furniture of your establishment which contains poisonous substances, (as designated in this paper,) of a peculiar color, one distinct from that of the rest of your labels. That you keep such furniture by itself, in order that it may not cause remark by cus-

tomers; or, that in place of this suggestion, you adopt the practice of placing upon each bottle, or drawer, or package, of such poisonous substances, some symbol, such as a bright red piece of paper, a triangle, or Greek cross, or of other suitable form, thus giving the eye an additional means of cautioning you when handling such substances.

That you print your dispensing labels for poisons upon a paper of an entirely distinct color from that upon which your ordinary ones are printed.

That in dispensing prescriptions containing poisonous substances, while you cannot mark such "poisonous" unless so directed to do by the writer of the recipe, yet by marking a symbol in red ink upon the label of the medicine, you may avoid any mistake in its repreparation, in putting up a poisonous for an innocent one.

That, as an additional precaution, you adopt the practice of placing bands of rubber around the necks and over the stoppers of bottles containing poisonous medicines in frequent use, or in some other manner delay slightly the opening of the bottle, so as to form an additional security and caution against mistake.

That in preparing prescriptions you adopt this course: first, carefully and understandingly read the recipe; then prepare it; then copy the recipe into a book provided for the purpose, with its date; name of prescriber and name of patient and directions; finally, place the number corresponding to the one on record upon the original recipe and the label, before delivering the medicine. In this way any possible error in first reading the recipe may be discovered in recording it; and secondly, you have a guide in the patient's name, by which you may avert evil consequences, should an error be discovered after the medicine has left the store.

That you provide yourself with a book, in which to record every sale of poison, stating in each entry the date of sale; to whom sold; for what purpose desired; the quantity sold, and price received. This can be used as evidence in case of any blame being attached to you in case of accident resulting from articles purchased of you.

That you consider yourself morally responsible to the community in which you live, when there may be no legislative control to the sale of poisons, and that you be particular when furnishing poisons to applicants for such, to assure yourself by the appearance of the customer and by proper enquiry of them, that no disreputable, illegal or criminal purpose is intended.

That you require a written order from a physician or other responsible party to accompany any application for a poisonous substance presented by a person under fifteen years of age.

That in all cases in dealing out poisons in your business to applicants in person, you be particular to caution them in regard to the properties and proper methods of employment of the substance which they are to receive.

That you entirely refuse to dispense oils of savine and tansy, of ergot,

and of substances of similar effect upon the economy, unless upon the written prescription of a physician.

The Association is led to believe that no legislation upon this subject, however strict, will completely protect the public against the acts of the evil-doer, in employing poisons to attain his purpose. Yet it trusts that this appeal to pharmaceutists, many of whom may not yet have felt the force and weight of the responsibility resting upon them, will awaken them to a sense of their accountability, morally and otherwise, and be conducive to individual safety and public welfare.

REPORT ON THE PROGRESS OF PHARMACY.

The Committee on the Progress of Pharmacy, in accordance with the line of duty pointed out for their guidance by the Constitution, present the following as their Report, though sensible that it falls quite short of the comprehensiveness that such a paper should possess.

Section 3d of article IV directs that this Committee "*shall report annually to the Association on the improvements in chemistry, practical pharmacy and the collateral branches, on any new works bearing on these subjects, published in this country or in Europe, and on the condition of the drug market and the quality of drugs and manufactured articles, whether of foreign or domestic production, found in commerce.*"

INORGANIC CHEMISTRY.

Aluminium.—In a paper by Mr. W. J. Taylor, of Philadelphia (Proc. Acad. Nat. Sci., Philada., Jan., 1857, and Amer. Jour. Pharm., March, 1857,) Mr. Alfred Monier, of Camden, N. J., has successfully manufactured this metal; and by the economical production of sodium, his process, on a large scale, will yield aluminium at *one dollar* per pound, the cost of the sodium being but 14 cents per pound, and capable of being produced on as large a scale as zinc.

M. Tessier (Comp. Rend., Feb. 16, 1857,) has pointed out many anomalies presented by aluminium, especially in reference to other metals in the electro-chemical series.

Iron.—Mr. Bessamer has published a process for converting crude into malleable iron, founded on the fact that the carbon of

cast iron cannot resist the oxidizing action of air at a white heat, and the process consists in forcing currents of heated air through highly heated crude iron. Subsequent experiments have not given favorable results, as to the quality of this iron for many important purposes.—(Pharm. Jour., Sept., 1856, p. 182, and Jour. Frank. Inst.)

Ferrocyanide of Potassium.—The difficulties in the present processes for producing the cyanogen compounds are ably discussed by H. Brunnquell, of Prussia, (see Pharm. Jour., Oct. 1, 1856, p. 218) in which he shows that the great loss of nitrogen is to be expected on theoretical grounds. He also gives a new process by which cyanogen is first obtained as cyanide of ammonium, and afterwards converted into ferrocyanide of potassium in the wet way.

Boron.—Messrs. Wohler and Deville have shown that boron, like carbon, exists in three distinct states:—1st. *Crystallized*, in transparent crystals like the precious stones, more or less colored, but probably colorless when pure. It is so hard as to scratch the diamond, and is possibly the hardest of known bodies. 2d. *Graphitoid* boron, analogous to graphite; and 3d, *Amorphous* boron, or that of Gay Lussac and Thenard.—(Comptes Rendus, Dec. 8, 1856, and Am. Jour. Pharm., July, 1857.)

Magnesium.—MM. Deville and Caron, in recent investigations with magnesium, have shown that it is analogous to zinc, in many of its relations. It is volatile like zinc, and may be distilled; its fusing point is nearly the same, density much less—1.75—burnishes easily, resists oxidation as well as zinc, and when burnt in oxygen the flame is tinged indigo blue. (Comp. Rend., Feb., 1857, and Am. Jour. Pharm., July, 1857.)

Sulphur.—This body has been closely studied as regards its existence in various *states or conditions* effecting its chemical relations as to solubility, insolubility, color, indifference and activity, etc.—(Jour. de Pharm., Mars, 1857, and Chemist, April, 1857.)

Phosphorus—Some details in the manufacture of this body may be found at page 168 of the Chemist, Dec., 1856.

Charcoal, Animal.—Dr. Stenhouse (Pharm. Jour., Jan., 1857, p. 362,) has made some valuable observations on the decoloriz-

ing charcoals. He finds that common vegetable charcoal, saturated with sulphate of alumina solution, then dried and ignited in close vessels, affords a product more efficient than purified animal charcoal. Hydrate of lime is intimately mixed with asphaltum and coal tar, dried and ignited in close vessels, and the lime afterwards dissolved out; the resulting charcoal is four times more powerful than the best purified animal charcoal.

Potash from Felspar.—Dr. Meyer, of Berlin, by igniting an intimate mixture of felspar and lime and digesting the mass in water, under a pressure of seven or eight atmospheres, has extracted from 9 to 11 per cent. of potash from the mixture.—(Pharm. Jour., vol. xvi., 607.)

Crystallized Hydrate of Baryta.—F. Mohr, of Coblentz, (Pharm. Jour., Dec. 1856, p. 309,) has published a process for obtaining baryta in a crystallized state.

New Oxide and Chloride of Silicium.—Wohler (Chem. Gaz., May 15, 1857, p. 186,) describes a new oxide of silicium and a new chloride of the same element.

Soluble Glass—Silicate of Potash.—Von Fuchs, the discoverer of this compound has recently (Chem. Gaz., April 1, 1857, page 130,) given a full paper on its application in the arts.

Ter-iodide of Bismuth.—Schneider gives a process for making this compound in the dry way by heating 1 eq. ter-sulphuret of bismuth and 3 eqs. of iodine, intimately mixed, in a loosely covered flask. The iodide of bismuth sublimes and the sulphur passes off chiefly as sulphurous acid.—(Chem. Gaz., March 16, 1857, p. 109.)

Proto-sulphuret of Carbon.—M. E. Baudrimont has discovered this hitherto unknown compound of sulphur and carbon. It is a gaseous body, colorless, odor resembling CS^2, and is powerfully anæsthetic. Its gaseous condition is the cause of its having escaped detection before. It is easily prepared, and is an interesting substance to the chemist.—(See Chemist, July, 1857, p. 601; and Am. Jour. Pharm., May, 1857.)

Iodide of Antimony.—Mr. Copney has recently published a a formula for this iodide (Pharm. Jour., Feb., 1857, and Amer. Jour. Pharm., May, 1857,) which is made by fusing 1 eq. metal-

lic antimony and 3 eq. of iodine, intimately mixed, as in making iodide of arsenic.

Apparatus for the production of high heats.—M. Deville has devised an apparatus which he calls a lamp forge, (figured and described in Pharm. Jour., Oct., 1856, p. 215.) He also there describes the material and manner of making the crucibles for use with it, which require to be of the most refractory kind.

A newly arranged apparatus for carbon and hydrogen determinations in ultimate analysis has been described by Dr. Squibb. —(Am. Jour. Pharm., Sept., 1856)

New properties of Charcoal.—M. Moride has shown that *recently* prepared wood charcoal has the power of precipitating some metals from their saline solutions, and of causing the formation of ether in diluted alcoholic acids.—(See Comptes Rendus, Oct., 1856, and Am. Jour. Pharm., Jan., 1857.)

Action of Water on Glass.—M. J. Pelouze has recently shown (Comptes Rendus, July, 1856, and Amer. Jour. Pharm., Jan., 1857,) that powdered glass is much more soluble in water than has been supposed, and exhibits the necessity of using caution in experiments to avoid contamination.

ORGANIC CHEMISTRY.

Strychnia.—Within the past year, owing chiefly to the interest excited by Palmer's trial, the attention of chemists has been turned to investigate the characteristics of this alkaloid most thoroughly. We will here only give reference to them. 1st. A Lecture on Strychnine, by Stevenson Macadam, F. R. S. E. (Pharm. Jour., Aug., 1856, p. 120.) This paper covers the chemical, physiological and toxicological points of view. 2nd. A paper by John Horsely, of Cheltenham, on testing for strychnia and brucia, who brings forward chromic acid as a test of great value. He also gives some physiological and post mortem researches in separate papers annexed.—(See Pharm. Jour. Sept. 1856, pp. 177, 182.) 3d. Messrs De Vry and Van-der-Burg, of Rotterdam, being required by the authorities to investigate a case of poisoning, have entered quite fully into the subject, chemically and physiologically, and they aver, in their conconclusions, that $\frac{1}{60000}$ of a grain could be detected, however

combined in the system, that that portion of strychnia causing death is decomposed and cannot be found in the remains, but the minutest quantity beyond that can be easily detected. (Pharm. Journ., March, 1856, p. 448.) These last assertions being called in question, Messrs. Rodgers & Girwood, of London, in a paper published in the same journal (April, 1857, p. 497,) arrive at the distinct conclusion in opposition to the above that strychnia can always be detected when it has been taken in sufficient quantity to cause death, and its *very stable qualities* render its detection more certain than any other poison.—(See also Amer. Jour. Pharm., July, 1857, p. 355.)

Aloin.—T. B. Groves, of Weymouth, England, (Pharm. Jour., Aug., 1856, p. 120,) has given a practical process for isolating this principle both from Barbadoes and socotrine aloes. The *point* of the process is in the employment of muriatic acid to precipitate the resino-extractive matter before evaporation, and thus facilitate crystallization.

Caffein.—Dr. Stenhouse has determined that *guarana* contains 5.07 per cent. of caffein, and that it is the richest source of that principle; good black tea having 2.13 per cent. and coffee about 1 per cent. Dr. Stenhouse, in connection with Prof. Graham and Mr. Campbell, has made a very elaborate report to the British Government on the adulterations of coffee and the modes of detecting them, which will be found at page 228, Pharm. Jour. for October, 1856, and continued at page 521 for April, 1857, the latter portion being republished in the Amer. Jour. Pharm., July, 1857.

Phaseo-Mannite.—H. Vohl has discovered this new kind of sugar in the unripe kidney bean. Its composition is C^{21} H^{21} O^{20}.—(Leibig's Ann. and Am. Jour. Pharm., Jan., 1857.)

Cinchonidin.—M. Wittstein has recently examined a bark analogous to *calisaya* in appearance, and which contains an alkaloid which he calls *cinchonidin.* It is not colored by chlorine water, crystallizes in brilliant crystals, and is probably different from the cinchonidin of Pasteur and de Vry.—(Amer. Jour. Pharm., March, 1857, p. 115.)

Veratrum Viride.—Jos. H. Richardson, of Philadelphia, has conclusively demonstrated the presence of *veratria* in this

plant, as previously alleged by H. W. Worthington.—(See Am. Jour. Pharm., May, 1857, p. 204.)

Malambo bark.—F. B. Dancy, of Mississippi, has examined this bark proximately, and found it to contain more than three per cent. of aromatic volatile oil, and gum, starch, albumen, resin, fixed oil, wax and salts.—(See Am. Jour. Pharm., May, 1857, p. 212.)

Colchicein.—M. Oberlin has recently (Comptes Rendus, Dec. 6, 1856,) re-examined *colchicum seeds*, and was unable to find the principle described by Geiger and Hess called by them *colchicin* on repeating their process, but by acting on that substance with dilute SO^3 or HCl he obtained a crystallizable substance which he calls *colchicin*, and which he has proved to *pre-exist* as such in the seed. It contains nitrogen, is a neutral body, and 5 centigrammes killed a rabbit in a few minutes.—(Am. Jour. Pharm., May, 1857, p. 235.)

Optical characters of the cinchona alkaloids.—Dr. W. Bird Herapath, of Bristol, Eng., (Am. Jour. Pharm., May, 1857) has extended his researches in reference to quinidia and cinchonidia as regards the effects of their solution on polarized light and the phenomenon of "fluorescence," or epipolic dispersion, and has satisfactorily shown that, whilst quinia and quinidia possess this power so as perceptibly to affect the appearance of 700,000 parts of water, cinchonia and cinchonidia possess none of this power. The iodo-sulphate of cinchonidin, like the iodo-sulphate of quinia, assumes a crystalline form of great beauty, but affects light differently, the body color being indigo blue instead of ruby red.

Analysis of Strychnos Ignatia.—James M. Caldwell has made an analysis of the seeds of this plant, chiefly with the view of ascertaining its percentage of strychnia and igasuric acid. Of strychnia he obtained 15 grs. from 2,000 of the seeds, and of the acid about one per cent. It is probable that this amount of strychnia is too small, as a waste must have occurred in the purifying process to which the crystals were subjected.—(Am. Jour. Pharm., July, 1857, p. 294.)

Capsicin.—Horace B. Taylor (Am. Jour. Pharm., July, 1857, p. 303,) has isolated this principle in the form of acicular,

colorless crystals, neutral, soluble in ether, alcohol, chloroform, oil of turpentine and caustic potassa, fuses when heated, and by increased heat vaporizes in dense suffocating vapors and its taste fiery and caustic.

Conhydrin.—Prof. F. Wertheim has obtained a new alkaloid from the fresh flowers of Conium maculatum by distilling a concentrated acidulated infusion with lime. The distillate contains ammonia, conia and *conhydrin.* Its formula is conia plus 2 eqs. water, and by distillation with anhydrous phosphoric acid yields that alkaloid. Conhydrin crystallizes in colorless, nacreous, iridescent crystals, with a conia-like odor.—(Am. Pharm. Jour., July, 1857, p. 321 from Chem. Gaz.)

Detection of Oil of Turpentine in Essential oils.—G. S. Heppe has applied the nitro-prusside of copper as a test for the terebinthinate adulteration; but the test has several exceptions which impair its value. When a fragment of this salt is heated with oil of turpentine in a test tube till the oil begins to boil and allowed to settle, a fine green deposit is formed, and the same occurs in any oxygenous volatile oil to which this oil has been added, whilst in such an oil without the turpentine, the deposit is brown or gray. The exceptions to this test are the hydrocarbon oils—lemon, juniper, orange, &c.—(Amer. Journ. Pharm., July, 1857, p. 325.)

Solanin.—M. Moitessier has extended the history of solanin to its ethyl and amyl compounds, parallel with the similar compounds of morphia, conia, nicotina, &c.—(Am. Jour. Pharm., July, 1857, 328.)

Scillitin.—M. Marais, in an inaugural essay (Jour. de Pharm., Feb., 1857, and an extract in Amer. Jour. Pharm., July, 1857) on squills has at last given the history of the bitter principle of squill. It exists as an amorphous, pale yellow substance, nearly insoluble in water, very soluble in alcohol and ether, an intensely bitter taste, colored violet by SO^3, bright red by NO^5. It has an *alkaline reaction*, yields ammonia with potassa, is precipitated by tannin, bi-chlor. platinum and per-chloride of iron; one-twenty-fifth of a grain, introduced into the circulation, killed a dog in 22 minutes.

Transformation of soluble into insoluble gum.—M. Gelis

(Comptes Rendus, Jan. 26, 1857) has discovered that gum arabic (arabin) heated carefully to 302° F. by an oil bath, is rendered insoluble in water and analogous to bassorin. This change consists in the loss of water—arabin $C^{12} H^{11} O^{11}$ becoming = $C^{12} H^{10} O^{10}$. This insoluble gum, by boiling with water, again becomes soluble. The most singular point is, that heat which converts starch into soluble dextrine, changes soluble gum into an artificial bassorin!—(Amer. Jour. Pharm., 564, July, 1857).

Artificial Glycerin.—M. A. Wurtz has succeeded in the synthesis of glycerin by operating on triacetine with baryta. The resulting substance has the composition and properties of glycerin, and, like that body, yields iodized propylene when treated with iodide of phosphorus.—(See Amer. Jour. Pharm., Sept. 1857, and Compt. Rendus, April, 1857.)

Mannite and Glycerin convertible into Sugar.—M. Berthelot has succeeded in converting these bodies into fermentable sugar by acting on a solution of them with certain animal tissues.—(Amer. Jour. Pharm., Sept. 1857.)

Amygdalin.—Messrs. Kolliker and Müller have proved that amygdalin and emulsin meet in the circulation, when amygdalin is taken by the stomach, and emulsin injected into a vein, producing prussic acid, and consequent poisoning; but when the emulsin is ingested and the amygdalin injected, no reaction follows, as the former undergoes digestion and does not reach the circulation.—(Amer. Jour. Pharm., Sept. 1857, and Brit. and For. Rev.)

Cinnamic Acid in resin of Liquidambar styraciflua.—Mr. Daniel Hanbury, of London, has ascertained that the acid in this resin is the *cinnamic*, and not the *benzoic*, as heretofore supposed, (Amer. Jour. Pharm., 478, Sept. 1857) and gives a process for distinguishing these acids readily.

Ursone.—A proximate principle obtained from uva ursi by Trommsdorf has been ascertained by Hlasiwetz to have the composition $C^{20} H^{17} O^{2}$.—(Chemist, 149, October, 1856.)

Alcoholic fermentation.—M. Berthelot has presented some interesting views in regard to this process, and the substances capable of modification by it, to the French Academy. He groups all such substances together; which, commencing at glu-

cose, become less and less readily fermentible till glycerin is reached.—(See Chemist, July, 1857, from Comptes Rendus, April 6, 1857.)

Cyclamin.—M. S. De Luca has investigated the tubers of Cyclamen Europæum, and found a proximate principle to which he has given the name of *cyclamin.* It is a white, amorphous, odorless, friable, neutral substance. It dissolves in water by moderate heat, froths when agitated, and is coagulated by boiling. It is poisonous.

Quinidin.—M. De Vry, of Rotterdam, (Pharm. Jour. Feb. 1857, 401) gives some remarks on commercial quinidin, showing it to be a mixture of cinchonidin and quinidin, and points out a test for quinidin in the great insolubility of its hydriodate.

Amylene.—Dr. Snow, of London, (Pharm. Jour. of Feb. 1857) read a paper on the anæsthetic powers of Amylene—C^{10} H^{10}—a product of the action of chloride of zinc on fusel oil or amylic alcohol. Owing to the great impurity of some of the commercial amylene, it has caused death, and gotten into disrepute. The causes of this impurity are pointed out in a paper by M. Duray, of Paris, (see Amer. Jour. Pharm. Sept. 1857).

Hydride of Amyle, or hydruret of amyle, was discovered by Prof. Frankland. But its anæsthetic quality was but recently detected by Prof. Simpson, of Edinburg. Its formula is C_{10} H_{11} + H It is a colorless mobile liquid, sp. grav. .638 at 57° Fahr., is the lightest liquid known, is very inflammable, insoluble in water, and is very stable. Messrs. T. & H. Smith, of Edinburg, have written an elaborate paper (Pharm. Jour. June, 1857, and Amer. Jour. Pharm. Sept. 1857) on this substance, and the mode of preparing it.

Xanthoxylin and oil of xanthoxylum piperitum berries have been recently (Pharm. Jour. July, 1857) examined by Dr. Stenhouse, in which he corrects his former analysis. The oil is a hydrocarbon.

Ilex Opaca, American Holly.—The leaves and berries of this plant have been examined by D. P. Pancoast, of Philadelphia, who found in them a crystalline bitter principle (*ilicin*), tannin, albumen, pectin, etc.—(See Amer. Journ. of Pharm. July, 1856, page 312.)

Aloetin.—M. E. Robiquet, of Paris, has re-examined aloes, and admits the correctness of T. & H. Smith's observations on this principle; but says, that it is only oxidized aloein, that it is purgative, and that the amorphous aloetin which he first isolated possesses this power.—(See Amer. Jour. Pharm. 543, Nov. 1856.)

Valerianate of Ammonia.—W. Procter, Jr., (Amer. Jour. Pharm. Jan. 1857, p. 27,) has published a process for making this salt in a crystalline form. M. E. Robiquet has also proposed an analogous process.—(Jour. de Pharm. Jan. 1857.)

Valerianic Acid.—M. Pierlot has ascertained that valerianic acid pre-exists in the juice of the valerian root, and may be obtained without chemical aid by simple distillation with water.

Carbonic acid from vegetable decomposition.—M. Correnwinder (Chem. Gaz. Jan. 15, 1857,) has ascertained by careful experiments, that the quantity of carbonic acid produced at the surface of the earth by the decay of plants, and thus presented to growing plants, is far greater than that from volcanic fires, animal respiration, and all other sources together.

Detection of Alkaloids.—Prof. F. A. Otto has published a paper (in Liebig's Annalen, Oct. 1856) on this subject, in which the process of Stass is commended in most cases; a modification of this for morphia is suggested.—(See Chem. Gaz. Jan. 15, 1857, page 34.)

Monarda didyma.—The fine color of the flowers of this plant is stated, by M. Belhomme, to be identical with that of the nopal and cochineal, and may be employed to make carmine.—(Chem. Gaz. Jan. 1, 1857.)

Alizarine.—Pure red coloring principle of madder may be separated from resinous matter in the extract, according to E. Schwartz, by spreading the alcoholic extract of madder on a paper, and this laid on a sheet iron, so that it can be exposed regularly to heat over a charcoal fire. The heat must be so regulated as not to burn the paper. By the agency of the heat the paper absorbs the liquid resin, whilst the alizarine crystallizes on the surface of the paper, the heat not being sufficient to sublime it. When cold, it may be scraped off, and sublimed if desirable.—(Chem. Gaz. Feb. 1, 1857.)

Codeia.—E. Robiquet (Jour. de Pharmacie, Jan. 1857), in a

paper read before the Academy in November, 1856, has examined codeia optically and therapeutically. Optically, in reference to the strength of the syrup used considerably in France, and therapeutically, as regards its capability of being substituted for morphia in certain cases. His conclusion is *unfavorable* to codein, as when given in quantity sufficient to produce the narcotism required, it exhibits a stupefying effect on the brain not at all desirable. Its province appears to be its influence over the nerves which are independent of the will.

Palm Sugar.—M. Leon Soubeiran (Jour. de Pharmacie, Jan. 1857) gives some observations on palm sugar as produced in the East Indies, and called jaggery, which is made from the *Cocos nucifera*, Borassus flabelliformis, Phœnix dactylifera, Sagus rumphii, and other palmaceæ.

Elastic Gelatin.—M. Lallement states that gelatin is rendered and maintained elastic by mixture with glycerin, and at the same time becomes imputrecible. It is prepared by dissolving gelatin in a water bath, evaporating till it becomes quite thick, and then adding an amount by weight of thick glycerin equal to that of the dry gelatin used. It may be used for printers' rollers, and for taking impressions of figures.

The active principle in Indian Hemp Resin.—The Society of Pharmacy of Paris having for two years offered a prize of 1000 francs for the best analysis of this substance, the prize was last winter adjudged to *M. Personne*, of Paris, whose essay was reported on by M. Robiquet, in the Journal de Pharmacie, Jan. 1857. Abandoning the idea, heretofore adopted, that the active principle was a resin, as pointed out by T. & H. Smith, of Edinburg, (*cannabin, haschishin,*) from the fact that when smoked, its peculiar effects were strongly manifested, he sought for a volatile principle, and by distilling the dried Indian hemp with water, obtained a volatile oil with an alkaline distilled water. The alkali proved to be ammonia. The volatile oil was lighter than water, had an amber color and the characteristic odor of the hemp. Exposed to cold it crystallized, and by fractional distillation yielded two distinct hydrocarbons; one, *cannabein* liquid, is $C^{36}\ H^{20}$; the other, in crystalline scales, is $C^{12}\ H^{14}$. *Cannabein* exhibits the physiological effects of hemp

resin, but its effects are less lasting. (The notice of M. Robiquet is in Jour. de Pharm. Jan. 1857.)

Hydrocyanic Acid, and its compounds.—Messrs. O. Henry and E. Humbert have published a paper (Jour. de Pharm. Feb. 1857) on this acid, more especially in reference to its medico-legal relations, and pointing out in detail the means of analysing various preparations containing it. This process will enable the chemist to isolate half a milligramme, $\frac{1}{145}$th of a grain of cyanide of silver, and consequently, one fourth of this amount of the acid.—(See Jour. de Pharm. March, 1857).

MATERIA MEDICA.

Rhatany.—Dr. Schuchardt (Pharm. Jour. July, 1856, 29) has given an elaborate paper on the Peruvian and Colombian or *savanilla* rhatanys, illustrated with sectional figures of their roots. Dr. S. thinks the savanilla rhatany is medicinally equal to the Peruvian.

English Oak Galls.—In a recent investigation of these galls, Dr. Vinen found them to contain 17 per cent. of tannin and gallic acid. These galls are used in Devonshire for making ink.—(Pharm. Jour., August, 1856.)

Carbazotic Acid.—Messrs. Grace Calvert and Dr. Moffat have tried this intense bitter, both free and combined with ammonia, iron, nickel and zinc in several forms of disease, in doses of $\frac{3}{4}$ of a grain to $1\frac{1}{2}$ grains per day, with some success. The most remarkable feature in connection with its use, is the deep yellow coloration which it causes in the patients who take it, who appear as if jaundiced. On ceasing its use the color passes off in two or three days.—(Pharm. Jour., Sept. 1856.)

The Red Bark Tree.—Mr. John Elliot Howard, the eminent quinologist, has taken considerable pains to ascertain the source of *red bark*, and has partially succeeded, having obtained all parts of the tree but the flowers, which were not on when collected; but he hopes to get them by another opportunity; the leaves are figured and the specimens described in the *Pharm. Journal* for October, (and transferred to the Amer. Jour. Pharm. for 1856.)

Penghawar Djambi.—Mr. Daniel Hanbury has investigated

the history of this curious drug (Pharm. Jour., November, 1856), which instead of being a lichen, is the hirsute appendage to the stipe of a species of fern—the *cibotium*—analogous to the male fern of this country. It comes from Sumatra, and is used as a styptic to stop hæmorrhages.

Aconitum Heterophyllum.—Dr. Thomson, of the Botanic Gardens at Calcutta, says that the root of this plant is used in India as a *febrifuge* and anti-periodic, and does not appear to possess poisonous properties.—(See Pharm. Jour., page 312, Dec. 1856.)

Wood Oil.—The oleo-resinous body obtained by incision from *Dipterocarpus turbinatus*, by a process similar to that used in Central America to get balsam of Peru, is noticed by Guibourt. —(Jour. de Pharm. Sept. 1856.)

Egusé Oil, from Africa.—Dr. Daniell, of Sierra Leone, has described this oil (Pharm. Jour. Dec. 1856) as the product of the seed of two cucurbitaceous plants growing in the interior. The oil is used like olive oil and palm oil, and Dr. Wilson thinks well of it for lubricating purposes.

Copals of Western Africa.—Dr. Daniell has published an elaborate paper on the sources of these *copals*, and has presented (Pharm. Jour., Jan. 1857) a figure of the *Guibourtia copallifera* which yields the copal of Sierra Leone.

Berberin tree of Soudan.—Dr. Daniell has also written a paper (Pharm. Jour., Feb. 1857) on the yellow dye tree of Western Africa, the *Cœlocline polycarpa*, which is used as a dye, and is celebrated in Sierra Leone as a remedy for ulcers, to which it is applied externally. Its virtues are attributed to the large amount of *berberin* it contains.

Storax.—Mr. Daniel Hanbury has published a valuable paper on this subject (Pharm. Jour., Feb. and March, 1857, and Amer. Jour. Pharm., 1857) in which he has succeeded in satisfactorily determining the source of storax to be the Liquidambar orientale of Asia Minor, and *not* the Styrax officinale to which it is usually attributed. A figure accompanying the paper shows the close analogy of this tree with the L. styraciflua of this country.

Radix Uncomo como has lately been brought into notice in

Europe as a Caffrarian remedy for tape worm. It is the root of a species of fern, *Aspidium athamanticum* of Kunze.

Amoma of Western Africa.—Dr. W. F. Daniell has published a continuation of his former paper on this subject, in the March and April numbers of the Pharm. Journal, with excellent figures of the fruits.

Urari, or Arrow poison of Guiana.—Sir Robert H. Schomburgh has published a paper on this subject in the *Pharm. Jour. of April*, 1857, in which he enters minutely into its history, preparation and uses.

Xanthoxylum piperitum, of Decandolle, yields the Japanese pepper, and, as has been stated, the berries yield a volatile oil and stearoptene, the latter called xanthoxylin, and no doubt similar to the xanthoxylin found in the xanthoxylum of this country by Dr. Staples.

Culture of Cinchona in Java.—At the suggestion of Prof. Miquel, the Dutch Government has introduced the culture of cinchona into the mountainous region of Java. M. Hasskarl, who was sent to the western coast of South America, obtained living plants and seeds of various species. Most of the plants died during the voyage across the Pacific, but Cinchona condaminea, and some other species remained in a growing condition. Prof. Miquel has sanguine hopes of ultimate success.

Bark of Liquidamber styraciflua.—Dr. Charles W. Wright, of Kentucky, has introduced this bark to notice as a remedy in the dysentery and diarrhœa of children in the summer months. He recommends it to be used in the form of a syrup made like wild cherry bark syrup.

Malambo Bark.—Edward S. Wayne (Amer. Jour. Pharm., Jan. 1857) has discussed the relation of this to certain other bitter barks, one of which, under the name of Winter's bark, has entered the commerce of this country. His judgment in regard to the identity of the latter bark with the malambo has been confirmed by a specimen of the malambo sent out from London by Mr. Hanbury.

Quassia Bark.—Edward Parrish describes a bark under this name (Amer. Jour. Pharm., March, 1857) which was sold for soap bark—Quillaia saponaria—but from which it differs in toto.

It has the appearance of the bark on commercial quassia, and its structure and taste, hence has been referred to that source.

Wild Senna.—Dr. Carl Martius has drawn the attention of pharmacologists to this drug, which is derived from *Globularia alypum*, of Linnæus, and occurs in Europe along the Mediterranean. It appears to have been known in the middle ages as a purgative. The plant is a low shrub. (Am. Jour. Pharm. May '57.)

Coconut Oil.—M. Pettenkoffer brings this oil forward as a substitute for lard in ointments, as being less liable to rancify. This is based on the statement that iodide of potassium ointment made with coco oil keeps two months without decomposition.

Bytteria febrifuga.—M. Gerardias has written a paper on the *bitter ash wood* of the West Indies, and ascertained it to be the product of the Bytteria febrifuga, a plant not hitherto described, to which M. Belanger, of the *Jardin des Plantes*, of St. Pierre, has given the name. The bytteria is a large tree of 50 to 60 feet high, and evidently is allied to quassia. It is found in Martinique.—(Jour. de Pharm., Feb. 1857, and Amer. Jour. Pharm., July, 1857.)

Rottlera Tinctoria.—Dr. Thomas Anderson, of the British Army, in India, states that a substance called kamila, obtained by brushing from the capsules of this plant, is used in India as a vermifuge for tapeworm. It acts as a purgative, and sometimes is emetic, in doses of ʒij to ʒss.—(Amer. Jour. Med. Science, July, 1857, from Indian Annals, &c.

Tragacanth.—M. Hugo Von Mohl, (Botanische Zeitung, 16th Jan., 1857,) has given his views in reference to the mode of production of this gum. By microscopic examination of the tragacanth, in plates, swollen out by maceration in water, and afterwards touched with a solution of chloride of zinc with iodine, he has determined it to have an organized cellular structure, in which the sides of the cells are coated with an amylaceous matter acted on by iodine, whilst each cell contains a minute starch granule. The surrounding matter is a gelatinous gum, without color, and transparent. The author does not view gum as a secreted juice indurated by inspissation, nor as of cryptogamic origin; but considers it to be a transformation of the cellules of the pith and medullary rays into the gelatinous substance of tragacanth.

PRACTICAL PHARMACY.

Distilled Waters.—M. Haselden, of London, gives his experience in reference to this class of preparations. (Pharm. Journal, July, 1856.) He thinks the waters of the aromatic seeds—cinnamon, pimenta, &c., as best, when made by distillation; that those of the labiate plants—mint, pennyroyal, &c., when the best oils can be obtained, are properly made by solution with the aid of magnesia or silica; and lastly, rose water, elder water, orange flower water, are best distilled from the pickled flowers, the latter being put down in the proportion of 1 lb. of salt to 3 lbs. of flowers. He considers stone jars better than glass for the preservation of distilled waters.

Strychnia.—Mr. J. Horsley recommends chromate of potassa as a precipitant in the manufacture of strychnia, by which means it is separated from brucia.—(Pharm. Journal, September, 1856, 179.)

Extract of Liquorice.—The question as to whether the firm consistence of Calabria liquorice is due to added matter, foreign to the root, or to a peculiar mode of preparation, has often been discussed. M. Delondre (Jour. de Pharm., Dec., 1856) has given a process by which the root is exhausted by pressure-steam, and thus, much matter, insoluble in cold water, is removed, which appears to act as a skeleton, or frame work, to retain the soluble extractive matter in shape when made into rolls.—(Amer. Jour. Pharm. March, 1857.)

Artificial Production of Ice.—An apparatus for forming ice by the cold occasioned by the evaporation of ether in vacuo, is figured in the March number of the (London) Pharmaceutical Journal, page 477.

Coating Pills with Tolu.—The usual method of doing this is to put the pills in a hemispherical vessel, with a small quantity of strong ethereal solution of tolu, and after agitating them till covered, to put them on a slab to dry. Mr. Baildon, of Edinburg, (Pharm. Jour., May, 1857,) recommends in preference, solution of tolu in chloroform, because it evaporates more rapidly than ether. A Brighton chemist announces that he holds a patent for coating pills with "resinous gum," and cautions all pharmaceutists against infringing his patent. The

author of this patent cannot be an advocate for general improvement. His patent is worthless.

Cod-Liver Oil with Quinia and other Substances.—It has become quite common in England to vend solutions of quinia, iodide of arsenic, and other substances in cod-liver oil, and a series of processes, not very lucid, are published (as patented) in the Pharmaceutical Journal for July.

Scammony Resin.—Prof. Williamson has patented a process for extracting the root of Convolvulus scammonia with alcohol, and evaporating to get a syrupy liquid, from which the resin is precipitated with water.—(Pharm. Journ., July, 1857, 37.)

Preparation of Ether by Steam Heat.—Dr. E. R. Squibb, U. S. Naval Laboratory, has published a process, with figures of apparatus used in making ether at the U. S. Naval Laboratory. The peculiarity of the apparatus is in analyzing the vapor from the still, so as to extract its alcohol, and thus get the ether of a higher specific gravity, say .728.—(See American Journal of Pharmacy, September, 1856.)

Compound Syrup of Squill.—Dr. H. T. Cummings has suggested diluted acetic acid to exhaust the squill in making this preparation, using diluted alcohol for the seneka. The object is to preserve the preparation from fermentation.—(Amer. Jour. Pharm., September, 1856.)

Bi-Sulphuret of Carbon as a Solvent has been proposed by E. Deiss, to be used to extract the fat from bones in lieu of boiling them in water. From 10 to 12 per cent. of fat can thus be obtained when the bi-sulphuret is distilled off. This idea has been applied in pharmacy, by M. Lepage, to the preparation of croton and laurel oils, and oil of nutmegs.—(See Amer. Jour. Pharmacy, July, 1856, and Sept. 1856.) The great volatility and extraordinary solvent power of this sulphuret, renders it, when pure, a valuable agent in the hands of the practical pharmaceutist since its great reduction in price.

Protiodide of Mercury.—Charles Bullock, in employing the process of Boutigny for making this compound, observed a formation of biniodide and metallic mercury, and considers the process ineligible when the quantities used are great.—(Amer. Jour. of Pharm., November, 1856.)

Fluid Extract of Ergot.—W. J. Watson has proposed a formula for fluid extract of ergot, of the strength of a scruple to a fluid drachm, which is made by evaporating a tincture of ergot in alcohol of the strength of wine, and evaporating till of twice the strength indicated, and then adding an equal bulk of alcohol.—(Amer. Jour. Pharm., Nov., 526.)

Iodized Oil.—M. Hugouneng proposes a formula for making a solution of iodine in oil of almonds as a substitute for cod-liver oil.—(Amer. Jour. Pharm., Nov., 526.)

Boutigny's Method for Protiodide of Mercury.—This process has been criticized by J. Canavan, and by J. M. Maisch.—(See Amer. Jour. Pharm., Jan. 1857, pp. 9 and 11.) The latter believes it is impossible to make pure protiodide by this method, whatever precautions may be taken.

Grain Weights.—Dr. E. R. Squibb has called attention to the great imperfection of these weights as furnished in commerce.—(Ibid, 16.)

Fluid Extract of Lupulin.—W. Procter, Jr., has published a formula for this preparation, of the strength of a grain to each minim., with ether as the extracting agent followed by alcohol.—(Amer. Jour. Pharm., Jan., 1857.)

Extractum Colocynthidis Compositum.—Dr. E. R. Squibb has published a process for making this valuable extract which differs from that of the Pharmacopœia, but arrives at the same result, except that the product is in powder. The colocynth is used in the form of the powdered simple extract, each ingredient is proportioned to the quantity in a dry state existing in the officinal recipe, and the whole intimately mixed, using the best *aloes* and *scammony.*—(See Amer. Jour. Pharm., 102, 1857.)

Aqueous Fluid Extract of Senna.—Dr. Thayer has introduced into use a fluid extract of senna, of the strength of the officinal, but made by cold water by displacement and evaporation in *vacuo.* It has been found by trial to be a good preparation.—(Amer. Jour. Pharm., 102, March, 1857.)

Collodion.—W. Procter, Jr., states (Amer. Jour. Pharm., March, 1857,) that, in his experience, long maceration (3 days) in nitric acid, 1.42–1.45, with SO^3, yielded a more soluble cotton than when a shorter period was allowed.

Extractum Jalapæ Fluidum.—W. Procter, Jr., (Amer. Jour. Pharm., March, 1857,) gives a formula for this preparation. It is alkaline, contains a grain to each minim, and fairly represents the drug. Sugar and alcohol are the preservative agents.

Chlorine Water.—Dr. Steiren, of Tarentum, Pa., criticises the Edinburgh formula for chlorine water, and thinks it should be discontinued.—(Amer. Jour. Pharm., May, 1857.)

Gold Sponge for Dentists.—Dr. Forbes gives a process for obtaining gold in a porous, spongy condition, for use by dentists, by adding oxalic acid to the dissolved chloride, heating, washing the golden deposit with hot water, drying on filtering paper, and then heating below redness till the particles cohere slightly.—(Amer. Jour. Pharm., May, 1857.)

Tinctura Ferri Chloridi.—Dr. E. R. Squibb, U. S. N., has proposed a new formula for this preparation, which obviates all difficulty in reference to its strength and preservation. Protochloride of iron is formed, with two-thirds of the prescribed quantity of muriatic acid, and q. s. NO^5 to peroxidize the protoxide. This solution does not change or deposit.—(Amer. Jour. Pharm., July, 1857.)

William S. Thompson, of Baltimore, has also (Ibid, p. 299) proposed a new formula for this tincture, in which ignited subcarbonate of iron is used in place of the officinal hydrated sub-carbonate. He also proposes to prepare it from hydrated sesquioxide; but these formulæ are not as convenient as that of Dr. Squibb just noticed.

Fluid Extract of Arnica.—J. M. Maisch proposes a fluid extract of arnica, made by exhausting 16 oz. Troy of arnica with diluted alcohol, evaporating to Oss. and adding Oiss. of alcohol 95 per cent. to make Oij.—(Amer. Jour. Pharm., July 1857.)

Fluid Extract of Uva Ursi.—J. M. Maisch also proposes a formula for this fluid extract, 16 oz. to Oj. using diluted alcohol as the menstruum, and 12 oz. of sugar as the preservative agent. This fluid extract has been made for several years before this published notice.

Liquor Ferri Nitratis; a New Process.—W. Procter, Jr., has proposed a new process for this officinal solution, which renders it as permanent as the tincture of the chloride. It consists in

making a proto-nitrate by saturating diluted muriatic acid with iron filings or tacks, (in large excess,) filtering and adding the requisite proportion of NO^5 to convert the proto-salt into sesqui-nitrate. The solution has a light wine color, and has no tendency to change by keeping.—(Amer. Jour. Pharm., July, 1857.)

Tinctura Ignatiæ Amaræ.—A formula for this tincture, ʒiv. to Oj., is given by the same.—(See Ibid. 109.)

Extractum Anthemidis Fluidum.—This fluid extract made lb. ss. to Oj. See same authority, page 111, March, 1847.

Lapis Calaminaris.—Ferris Bringhurst, of Wilmington, has corroborated the previously alleged impurity of commercial calamine, in six analyses.—(Amer. Jour. Pharm., July, 1857.)

Benzinated Solution of Alumina.—M. Mental has suggested this preparation as a styptic in hæmorrhages. It is a solution of pure sulphate of alumina, saturated with gelatinous hydrate of alumina, and afterwards heated with an excess of benzoin, during six hours, at 176° F. and filtered. It is highly spoken of as a styptic.—(Amer. Jour. Pharm, March 1857, p. 128.)

Iodized Glycerin.—Dr. Richter, of Vienna, proposes a solution of 1 part of iodide of potassium in 2 parts of glycerin, and then dissolving in this 1 part of iodine, as an external iodine caustic.—(Amer. Jour. Pharm., March, 1857.)

Process for Drying and Pressing Plants in their Natural Form and Colors.—Prof. Reveil, of the School of Pharmacy of Paris, has published a process for drying plants to be used as specimens for illustration. Washed fine sand is dried at 302° F., and whilst at that temperature, five drachms each of stearic acid and spermaceti are added to fifty pounds of sand, which is then stirred thoroughly until every grain gets a coating of the fatty mixture. In a box with a trap bottom, the plant to be dried is placed, and cautiously surrounded with the prepared sand, supporting each leaf and petal as the sand is filled in, observing to use merely enough to cover every part. The box is then put in a drying closet, at the temperature of 113° F., till completely desiccated, when the sand is carefully

drawn off beneath, and the few granules adhering removed by a camel's hair brush.—(Amer. Jour. Pharm., March, 1857, p. 163.)

Preparation of Drying Oil.—Prof. R. Wagner gives a process for preparing a drying oil for painters' use.—(Amer. Jour. Pharm., March 1857, p. 168.)

Oleum Æthereum and Spiritus Ætheris Compositus, U. S. P.—Dr. Edward R. Squibb, U. S. N., has given the result of his experience in making these preparations, and criticises the present course of manufacturers, in preparing Hoffman's anodyne with but a fraction of the proper quantity of oil of wine in it.—(See Amer. Jour. Pharm., May, 1853, p. 193.)

Solubility of other Iodides in Syrup of Iodide of Iron.—J. M. Maisch, (Amer. Jour. Pharm., May, 1857,) has ascertained that the iodides of copper, lead and mercury are soluble in the officinal syrup of iodide of iron, and points out the necessity of care in avoiding contact with these metals in making this syrup.

Gallic Acid.—F. Steer gives a process for isolating this acid from nutgalls, which is analogous to the old process of Scheele. He gets 24 lbs. of acid from 100 lbs. of galls.—(See Amer. Jour. Pharm., July, 1857.)

Pyrogallic Acid.—Prof. Liebig has given a process for preparing pyrogallic acid, which essentially consists in heating *gallic* acid in an apparatus, arranged so that a current of carbonic acid will be constantly passing through it during the sublimation of the acid; and, though a sand bath is directed, he considers that greater success attends the process when a bath of constant temperature (chlor. zinc, or fusible metal,) is employed. He obtains 31 to 32 per cent. of product—a large yield, as 39 per cent. is the full theoretical product.—(See Amer. Jour. Pharm., July, p. 338.)

Valerianate of Ammonia.—Pierlot's formula for the original solution of this salt, prescribed by Dèclat, is distilled water f. ℥iv, valerianic acid a drachm, carb. ammonia q. s., neutralize and add ʒij. alcoholic extract of valerian.—(See Amer. Jour. Pharm., p. 367, July, 1857.)

Santonin.—G. G. Perry, of Droxford, highly recommends santonin as an anthelmintic for children—dose, 3 grains for two

years of age, followed in a few hours by a purge of calomel and jalap, or other preparation.—(Amer. Jour. Pharm., July, 1857.)

Hydrargyrum cum Creta, and Pilulæ Hydrargyri, U. S. P.—Dr. E. R. Squibb, U. S. N., gives some valuable critical remarks on these preparations, and a number of analyses of each preparation, as found in the best stores of New York city.—(Amer. Jour. Pharm., p. 385, Sept., 1857.)

Action of Alkaline Chlorides on Calomel.—Dr. Andrew Fleming, of Pittsburg, Pa., has carefully investigated this subject, and corroborates the views of Mialhe in reference to it, viz.:—that they do form corrosive sublimate by contact in presence of water; and he has ascertained that the amount of bichloride of mercury found, is proportional to that of the alkaline chloride present.

Syrup of Pyrophosphate of Iron.—M. E. Robiquet has presented a communication to the French Academy of Medicine on this preparation, (see Amer. Jour. Med. Sci., July, 1857,) and its therapeutical use. A synopsis of this paper will be found in the September number of the American Journal of Pharmacy, at page 401, and a process for the same syrup, at page 404, following.

Subcarbonate of Bismuth.—Dr. Hannon, of Brussels, proposes this salt as an improvement on the subnitrate, on the ground of its greater solubility and efficiency.—(Amer. Jour. Pharm. page 403, Sept.)

Artificial Vichy water.—W. Procter, Jr., has published a note on this preparation, based on Soubeiran's formula.—(See Amer. Jour. Pharm., Sept., 1857.)

Lactate of Zinc.—Dr. Herpin has published a paper on lactate of zinc, in which he gives two processes for obtaining it.—(See Amer. Jour. Pharm., page 426, Sept. 1857, and Chemist, June, 1857.)

Chloroform.—Dr. Edward R. Squibb, U. S. N., in a paper read before the New York Academy of Medicine, on the "Manufacture, impurities and tests for Chloroform," has given much valuable practical information, and has pointed out some peculiarities of this substance. The most prominent fact he brings forward is that *absolutely pure* chloroform does not keep well,

but when it contains a small percentage of alcohol so as to reduce its specific gravity from 1.498 to 1.490 it is permanent. He attributes the decomposition which occurs in chloroform purified by Gregory's process to the removal of these last traces of alcohol by the sulphuric acid.—(See Amer. Jour. Pharm., Sept., 1857, from Amer. Med. Monthly, July, 1857.)

Bestucheff's Tincture.—A. Cushman, (Amer. Med. Gazette, Aug, 1857,) has published a process for this tincture analogous to Dr. Squibb's for tr. sesqui-chloride of iron.

Powdered Blue Mass.—A formula for this preparation is proposed by Messrs. Grahame and Sharp, in a report to the Maryland College of Pharmacy.—(See Minutes in Amer. Jour. Pharm., Sept., 1857, page 473.)

The subject of the *sale of poisons*, and the unusual number of cases of designed and accidental poisoning occurring in England, has attracted the attention of Parliament, and for some time a bill has been pending, intended to regulate the sale of poisons generally, whether for use in medicine or the arts, which contains so many stringent provisions, as, should it become a law, would prove of great annoyance to regular pharmaceutists. The Pharmaceutical Society, foreseeing the probable tendency of the bill, have for some time past been taking measures to bring before the parliamentary Committee correct views of the subject, showing that the evil arises from the unrestrained sale of poisons by grocers and petty medicine dealers, and not by regular pharmaceutical chemists, and that the passage of such a law as proposed would prove of the most serious inconvenience to the physician and apothecary. They take the ground that the only true remedy against the evil is to promote the efficiency of the *corps pharmaceutique*, by regulations requiring higher qualifications, and restraining the pretender from engaging, without limit, in the vending of the most powerful medicines and poisons.

Within a year past the Dublin College of Physicians, (which possesses great legal powers in matters pertaining to medicine,) has issued a supplement to their Pharmacopœia, requiring that all medicines for *external use* be dispensed *only* in angular bottles, that all medicines for internal use be dispensed *only* in *round* bottles. The same rule was extended to the receptacles in the

shop, all dangerous substances to be kept in angular bottles. This most absurd measure has received the full expression of opinion it deserves. The pharmaceutists of England and Ireland have exposed the mischievous tendency of the law and its extreme annoyance in practice. Until the habits of order *on the average* natural to mankind be changed for the better, such laws will prove of no use, but full of mischief. A copy of the Parliamentary bill will be found in the June (1857) number of the Pharmaceutical Journal, pages 616–619, and in the following number the discussion of the matter before the Society, and the results of an interview of its Committee with Lord Granville. The progress of these measures in England, especially the attempts at legal remedies, deserve the careful study of American pharmaceutists and physicians, as from the analogy of our laws and customs they are more or less applicable here, should similar attempts be made by our State Legislatures to remedy existing evils.

Since last meeting the Committee have not learned of any new organization of pharmaceutists within the United States, although of several instances where they seem ripe for such union. At Victoria, in Australia, the pharmaceutical chemists united, on the 6th of March last, to form "The Pharmaceutical Society of Victoria," "having for its object the advancement of Pharmacy, by furnishing a uniform system of education, as shall secure to the profession and the public the safest and most efficient administration of medicine," &c.

Of the *Schools of Pharmacy* in operation in this country we may state, the *Baltimore College* re-opened their school last winter with three professorships, and graduated a class of three, notwithstanding it being the first course, which arose from the unusual proficiency of the applicants. The character of the teachers of that school argues favorably for its future success.

The *Philadelphia College* continued, with increased numbers, the last session in its School of Pharmacy having graduated 28 applicants from a class of 116 students.

The *New York College* continued their school so far as the course on Chemistry by Prof. Doremus. For two years past there have been no lectures on Materia Medica or Practical Pharmacy, a re-organization of the school having been intended, though not as yet carried into effect.

The *Cincinnati College* have had no tuition extended under their auspices during the past year, and, the Committee are informed, have no present intention of moving in that branch of their functions.

The *Massachusetts College*, though not a teaching institution, in the collegiate sense, seem to be infused with quite as much vitality as any of her sister institutions, and in some regards is an example to all. In a pamphlet published by that College, embracing reports of Committees on "Inspection," on "the State of Pharmacy," on "Reference," on "Room," and the Code of Ethics of this Association adopted by that College, we see gratifying evidence of progress, onward and upward, improvement in pharmacy and in pharmaceutists. The report on "Reference" is particularly indicative of a growing feeling of brotherhood, of harmony in action and feeling for mutual and general good, which should be encouraged in all similar institutions. It is the petty jealousy, arising chiefly from a low view of business competition, that in most cases prevents pharmaceutists from associating themselves together for mutual good; they do not understand each other, because this jealousy prevents that associating together that leads to mutual esteem, and willingness to sacrifice a little for each other. In Boston a social-scientific union has manifested itself more decidedly than elsewhere, and is bearing its goodly fruits of good feeling. The Associations in *Richmond* and *St. Louis* appear to have subsided into the sleep of indifference, so far as we can learn. This is the more to be regretted as in both of those cities many excellent pharmaceutists exist, who, if disposed, might spread the seed of pharmaceutical advancement to ultimate fruition.

It is part of the business of this Committee to report on the works which may have been published during the past year on the subjects of Chemistry, Materia Medica, Pharmacy and the collateral branches. No new works on practical pharmacy have been published, but in New York city a monthly Journal called the "American Druggist's Circular and Chemical Gazette," was commenced on the 1st of January last, and yet continues to be issued by Messrs. Bridgeman & Co., Druggists of New York. This periodical partakes of the nature of the newspaper as well as of the scientific journal, and aims to be "a practical journal of

chemistry as applied to pharmacy, arts and sciences, and general business organ for druggists, chemists and apothecaries." It appears to be the object of the publishers, who are wholly independent of the New York College, to address themselves more especially to business matters, and, as a consequence, advertisements enter largely into the composition of its pages, yet mixed with much of the current matter of the Journals. Its low price and small postage have caused a large circulation, and if conducted in the right spirit, it may prove highly useful in giving extensive currency to valuable information, and correct views in regard to the ethics and practice of pharmacy. Late numbers have lead some to fear that the publishers are not sufficiently careful in excluding advertisements incompatible with their assumed standard of action; and however praiseworthy in other respects, the extensive circulation of quack advertisements is a blot on any Journal claiming the patronage of the pharmaceutical profession.

As regards the state of the drug market, the Committee have not been able to obtain such data as will enable them to report on the general condition of the market at this time. To do this correctly, they should have access to the books of the inspectors of drugs, and be assisted by the large druggists and manufacturers, sources of information as yet but partially accessible, as business men have a strong dislike to giving statements on paper in reference to the drug trade.

The Examiner of Drugs at the port of New York, Dr. Merkle, at the solicitation of Mr. Dupuy, was so obliging as to present the Committee with a complete copy of the items of drugs passed from day to day, from June 1st to August 31st, inclusive, a document of 25 pages foolscap. We have carefully condensed this list so that each drug or preparation constitutes but one item; and all the quantities of each kind, after being reduced as far as practicable to the same standard of weight, have been added together. In this way we are able to present at one view the entire drug importation at the port of New York (which embraces two-thirds of the entire amount brought into the country) during the period mentioned. We believe this catalogue, if kept up, will be a valuable appendage to the annual Report on the Progress of Pharmacy. It is as follows:

Quantities of the various Drugs and Medicines that passed the Custom House at New York, during the Quarter ending August 1st, 1857.

Gum Arabic	63,419 lbs.	Flor. Cassiæ	975 lbs.
Gum Galbanum	1556 "	Acid. Sulphuric, Nordhausen	135 "
Rad. Ipecacuanha	3640 "	Tragacanth	4483 "
Secale Cornutum	2028 "	Buchu	4595 "
Peruvian Bark	125,457 "	Manna (small flake)	120,446 "
Cream of Tartar (crys.)	421,304 "	Sem. Agni Casti	14 "
Opium	26,620 "	Senna, E. India	15,706 "
Colocynth	1297 "	Ext. Hyoscyami	118 "
Sulphate of Potassa	1476 "	Ext. Belladonna	66 "
Iodide of Potassium	6220 "	Creta Præcipitata	1200 "
Sugar of Milk	620 "	Vin. Rad. Colchici	50 "
Bermuda Arrow Root	18,883 "	Pulvis Antimonialis	50 "
Pulv. Rhei Borussici	233½ "	Syrup Rhamni Cath	356 "
Ol. Anisi vulgaris	278 "	Gum Benzoin	4183 "
Flores Sulphuris	22,304 "	Bals. Copaiba	168 Canadas. / 5567 lbs.
Verdigris	239 "	Cornu Cervi Rasp	681 "
Cap. Papaveris	1186 "	Rad. Scillæ	2769 lbs.
Rad. Gentianæ	14,413 "	Ol. Angelicæ	3 "
Ol. Crotonis	249 "	Ol. Cardamomi	3 "
Sulphate of Magnesia	53,420 "	Rad. Sarsaparillæ	119,538 "
Supercarb. of Soda	1,707,100 "	Cantharides	6455 "
Brown's Cantharidin Tissue	190 doz.	Sem. Cinæ Levant	6416 "
Murray's Magnesia	60 "	Rad. Jalap	10,449 "
Acid Tartaric, cryst	37,241 lbs.	Rad. Alcannæ	200 "
Sal Sodæ	5500 "	Rad. Althææ	1153 "
Potassæ Chloras	5816 "	Rad. Calami	1625 "
Sulphate of Quinine	26,996 oz.	Ol. Lauro Cerasi	4 "
Ammoniæ Carbonas	13,107 lbs.	Ol. Menthæ Pip	4 "
Ammoniæ Murias	28,599 "	Ol. Amygdalæ Amaræ	119⅜ "
Oleum Ricini	73,000 "	Ol. Rosarum	40½ oz.
Barytæ Sulphas	38,639 "	Ol. Absinthii	5 lbs.
Rad. Salep	775 "	Ol. Millefolii, Ess	1 "
Ext. Glycyrrhiza	61,207 "	Dr. Keeson's Ess. of Life	8 doz.
Acid Citricum	7001 "	Ol. Succini Crude	667 lbs.
Fol. Sennæ Alex	5082 "	Rad. Iridis Florent	16,581 "
Seidlitz Powders	12 doz.	Zinci Sulphas	3860 "
Hooper's Pills	84 doz.	Kousso	28 "
Crude Camphor	22,675 lbs.	Lapides Cancrorum	6 "
Rad. Rhei Chinensis	59,745 "	Alcohol Ferri	10 "
Rad. Valerian	3835 "	Bismuthi	21 "
Rad. Taraxaci	857 "	Canada Balsam	4744 "
Santonin	101⅝ "	Ferri Carb. Præcipitat	232 "
Acid Gallic	125½ "	Vin. Sem. Colchici	25 "
Fol. Rosmarini	1264 "	Sodæ acetas	1150 "
Ol. Succini Rec	600 "	Flor. Malvæ arb	64 "
Ext. Cannab. Ind	112½ "	Rad. Aconiti	1390 "
Pil Hydrargyri	225 "	Rad. Anglicæ	150 "
Cubebæ	3400 "	Bals. Tolu	1137 "
Gambogia	2480 "	Rad. Galangæ	1648 "
Sem. Anethi	50 "	Rad. Turpethi	24 "
Ol. Sinapis	12 "	Agaricus	289 "
Ol. Carui	175 "	Acid Acetic Crystal.	26 "
Ol. Chamomile Rom	3 "	Flor. Rosari Rubri	12 "
Ol. Coriandri	15⅛ "	Ol. Cacao Express	48 "
Rad. Pareira Bravæ	491 "		

Lapis Calaminaris.....20 lbs.
Gum Anime.....22 "
Sem. Staphidis Agriæ.....50 "
Rad. Guaco.....6 "
Ol. Petræ Alb.....165 "
Tamarinds.....329 "
Strontiæ Nitras.....380 "
Gum Euphorbium.....400 "
Aloes.....3212 "
Mauna (large flake).....2542 Rottoli
Lycopodium.....141 lbs.
Howard's Calomel.....25 "
Emp. Adhesive.....20 "
Pulv. Rhei Russici.....5 "
Ext. Colocynth. Comp.....41 "
Ext. Lactucæ Viros.....2½ "
Ext. Digitalis.....3½ "
Ext. Aconiti.....10 "
Confec. Sennæ.....25 "
Confec. Rosæ Gallicæ.....25 "
Fol. Digitalis Elect.....247 lbs.
Fol. Conii Elect.....25 "
Fol. Belladonnæ.....235 "
Ol. Amygdal. Dulcis.....2004 "
Potassæ Acetas.....300 "
Bismuth. Metal.....820 "
Dalby's Carminative.....3 doz.
Canella Alba.....3357 lbs.
Flor. Cham. Vulg.....279 "
Pill Ferri Iodid.....6 gross.
Cigarettes d'Espie.....106 scatul.
Flor. Chamomil Vulg.....162 lbs.
Flora Arnicæ.....417 "
Kreasote.....510 "
Cetraria Island.....944 "
Balsam Peru.....493 "
Fol. Hyoscyami.....687 "
Fol. Centaur. minor.....1200 "
Aloes (Capensis).....4084 "
Acid Acetic.....3829 "
Calomel.....450 "
Ext. Taraxaci.....240 "
Ext. Rad. Aconiti.....5 "
Uva Ursi.....1606 "
Flor. Tiliæ.....391 "
Fol. Aconiti.....130 "
Rad. Glycyrrhiza.....4261 lbs.
Ol. Origani.....2353½ "
Ol. Sabinæ.....94½ "
Henry's Magnesia.....36 gross.
Crocus Orientalis.....1 lb.
Resinæ Jalapæ.....3 "
Ol. Calami.....6 "
Moschus Tonquin.....45⅔ oz.
Magnesia Carbonat.....7525 lbs.
Magnesia Calcinat.....61,566 "
Ol. Melissa.....11 "
Ol. Valerianæ.....10 "
Assafetida.....7270 "

Sem. Cumini.....1211 lbs.
Sem. Anisi.....944 "
Sem. Cardamomi.....704 "
Chinoidin.....5200 oz.
Sem. Coriandri.....6000 lbs.
Acid Valerianic.....141 oz.
Cadmium Met.....20 lbs.
Cadmii Sulphuretum.....10¼ "
Valerianate of Ammonia.....30 oz.
Bromide of Ammonium.....114 "
Ext. Conii.....30 lbs.
Elaterium.....10 oz.
Ol. Lavand. Angl.....2 lbs.
Ol. Copaiba.....10 "
Lignum Guaiaci.....261 "
Ol. Animalis Fœtid.....20 "
Ol. Animal Æther.....1 "
Ext. Marrub. Alb.....2 "
Ext. Krameriæ.....5 "
Rad. Zedoariæ.....20 "
Sem. Cydoniæ.....4 "
Sem. Phellandriæ.....10 "
Sem. Papaveris Alb.....25 "
Cortex Chinæ Fusca.....6467 "
Ol. Cajuputi.....1140 "
Ol. Baccæ Juniperi.....156¼ "
Ext. Rhei.....20 "
Amylene.....170 oz.
Zinci Valerianas.....5 "
Ferri Valerianas.....35 "
Quinia Valerianas.....1 "
Ferri Lactas.....104 "
Protiodide of Mercury.....2 "
Oil of Ergot.....203 "
Ferri Ammonio Citras.....3 lbs.
Aconitia.....132 grms.
Ferri et Quiniæ citras.....24 oz.
Iodine resublimed.....991 lbs.
Rad. Rhei Moscowensis.....901½ "
Chirayta.....74 "
Glycerin.....716 "
Nux Vomica.....10,800 "
Flores Sambuci.....521 "
Thymus Vulg.....212 "
Rad. Saponaria.....328 "
Cortex Curacoæ.....323 "
Flor. Papaveris.....105 "
Flor. Violæ.....105 "
Labdanum.....25 "
Sagapenum.....25 "
Tacamaca.....31½ "
Ext. Sarsap. Com.....2 "
Ext. Colchici acet.....1 "
Ol. Cumini vol.....20 "
Magnes. Citras Efferves.....161 doz.
Nitrate of Soda.....102,700 lbs.
Acid Boracic.....95,455 "
Codeia.....4 dr.
Manganesii Sulphas.....12 lbs.

Manganesii Hydriodas.....15	oz.
Manganesii Citras.....15	"
Zinci Chlorid. Sicc.....100	"
Sulphate of Cadmium.....15	"
Iodide of Cadmium.....20	"
Bromide of Cadmium.....10	"
Caffein.....1½	"
Iodide of Ammonium.....25	"
Acid Phosphoric Glac.....46	"
Plumbi Acet. Pur.....10	lbs.
Sal Rochelle.....1950	"
Fol. Salviæ.....708	"
Rad. Hellebori.....492	"
Rad. Colombæ.....10,300	"
Acid Benzoic 200	"
Storax.....520	"
Lactucarium (German).....8¼	"
Morphia Sulphas.....12⅗	"
Strychnia Cryst. Pur.....22¼	"
Chloroform.....81	"
Ergotin.....1	"
Cowhage.....21	"
Alcohol Absolute.....56½	"
Conia.....2	oz.
Dipple's Animal Oil.....12	lbs.
Pepsin.....4	oz.
Hippuric Acid.....4	"
Digitalin.....4	"
Salicin.....112¼	lbs.
Bacc. Juniperi.....97	"
Rosa Gallica.....3	"
Coal Naptha.....50	"
Beeberin.....1	oz.
Gauza.....227	lbs.
Ol. Sabinæ Vera.....150	oz.
Oxide of Copper.....50	lbs.
Oxide of Uranium.....25	"
Gum Olibanum.....1200	"
Ext. Valerian Rad.....2	"
Pulv. Rad. Scillæ.....5	"
Price's Glycerin.....200	"
Bi-carb. Potassæ.....50	"
Zinci Oxidum Purum.....25	"
Baryta Nitras.....431	"
Rad. Zing. Jam.....5200	"
Ol. Geranii.....50	"

List of Drugs, etc., rejected by the Examiner at N. Y., during the same period.

Lac Sulphuris.....5	casks.
Flores Sulphuris (contained Arsenic).....84	"
Gum Arabic.....4	cases.
Carbonate & Calcined Magnesia.....16	cases.
East India Rhubarb.....53	"
Peruvian Bark.....5	seroons
Ipecacuanha.....1	bale.

In the report to the Massachusetts College, before referred to, the Committee remark in relation to the "state of the drug trade, changes in quality, price, scarcity, and supply, that in their judgment the drug trade has assumed a much better condition during the past few years, than before the matter of quality of drugs was agitated so much by the different Colleges of Pharmacy." This remark we believe to be generally applicable to other cities. Not only is the general mass of imported drugs better than formerly, but much more attention is given by pharmaceutists to quality, than at a period ten years since, a fact attributable to the inspection law—to the Colleges of Pharmacy—to the action of medical bodies—and to the improved condition of the practice of pharmacy and its votaries, within the period mentioned, when viewed as a whole. Yet, all over our land, in our oldest cities, and under the very shadows of our most venerable Colleges of Pharmacy, not a few instances exist of a condition of things far different—where not only the often drawn

picture of "a beggarly account of empty boxes," etc., may be found, but what is far more, empty heads and unskilled hands to manage them. A member of this Committee writes to the Chairman, "I am acquainted with one (of the class mentioned) doing a considerable business, who had only to aid him an old London Dispensatory of 1796, and within the last six years he asked me seriously "what Dispensatory I would advise him to purchase," as he found "that so many new articles were introduced which he could not find in the old one it was necessary to get another!"

Whilst the drug law has so evidently exerted an influence for good, there exists a class infinitely more hurtful in its character than the "apothecary," empty headed though he be, in the form of the wholesale adulterator of drugs brought to our shores in a comparatively pure condition. It is hoped that the Committee on Home Adulterations, to which this class has been referred, will be able to give us a fair account of them and their doings.

In conclusion, the Committee would remark that the indefiniteness of the duty assigned to them has been a cause of difficulty in getting up this Report, and they hope, for the guidance of future similar Committees, that the Association will freely express its views in relation to the form and arrangement which these Reports should assume.

WILLAM PROCTER, JR.
EUGENE DUPUY,
JAMES COOKE,
On behalf of the Committee.

REPORT OF COMMITTEE ON LOCAL UNOFFICINAL FORMULÆ, &c.

The Committee appointed at the last meeting of the Association, to collect and arrange the Formulæ for the unofficinal preparations in use by the Physicians in different parts of our Union, respectfully report, that they have devoted much attention to the duty assigned them. They are aware that it is not the purpose of the Association to encourage the accumulation of unofficinal formulæ, over the more explicit prescription of the physician,

and as evidence of the concurrent views of the medical profession on this point, your Committee would refer to the limited number of such formulæ in use, as compared with the number of medical practitioners. Yet, the necessity for time and labor in the combination of many pharmaceutical products, the importance of expedition in dispensing, and the advantage of brevity in expressing them, unite to suggest for each the propriety of a formulæ, and a name by which it may be designated. These names are incapable of that order of nomenclature which so simplifies our chemical system, in expressing not only the constituent parts of a compound, but their exact proportions. Hence, the names affixed to pharmaceutical compounds must be comparatively arbitrary, and your Committee hope to diffuse a knowledge of those in use, that will produce concerted action among the members of our art throughout the Union, by enabling them uniformly to compound any such preparations, however remote from the physician prescribing the same.

While expressing their regret that sickness had deprived them of the counsel of their Philadelphia member, your Committee acknowledge their indebtedness to a fellow member of the same city, who, anticipating their labors in that quarter, has so methodically arranged such formula in his valuable Text-book on Practical Pharmacy, that your Committee have not deemed it necessary to transcribe them.

With the suggestion, offered for the consideration of the Association, that the approved portion of the annexed Formulæ, together with selections from Parrish's Practical Pharmacy, be printed in a form that may be appended to the Pharmacopœia for convenient reference. Your Committee respectfully submit herewith the *omnium gatherum* result of their labors.

JOHN MEAKIM.
R. H. STABLER.
A. E. RICHARDS.
W. J. M. GORDON.
On behalf of the Committee.

UNOFFICINAL FORMULÆ.

PRESENTED BY JOHN MEAKIM, OF NEW YORK.

Triplex Pills.

Take of Powdered Socot. Aloes.....2 oz.
Powdered Scammony.....1 oz.
Blue pill mass.....2 oz.
Oil of Caraway.....3 drs.

Make a mass with syrup and form into pills of five grains each.

Dr. Marshall Hall's Dinner Pills.

Take of Powdered Barbadoes Aloes.....
Soap.....
Powdered Ext. Liquorice.....
} equal parts.
Molasses.....sufficient quantity.

Make a mass and form into pills of four grains each.

White's Gout Pills.

Take of Calomel.....
Powdered Aloes Socot.....
" Ipecac.....
Acet. Ext. Colch.....
} of each 1 dram.

Make a mass with syrup, and form into 60 pills.

Dr. Abernethy's Pills.

Take of Powdered Socot. Aloes.....48 grs.
" Ipecac.....20 grs.
Ext. Henbane.....48 grs.
Blue Pill mass.....24 grs.

Make a mass with water, and form into 24 pills.

Eccoprotic Powder.

Take of Powdered Rhubarb.....
Calcined Magnesia.....
} of each 1 oz.

Mix.

Ricord's Aromatic Wine.

Take of Rue, Sage, Hyssop, Rosemary, Lavender, Absinth, Rose Leaves, Thyme and Elder Flowers..... } of each 4 oz.

Bordeaux Wine .....9 pts.

Digest for two weeks, strain with expression and filter, then add wine to make 9 pints. Then add

Tannic Acid..... }
Alum..... } of each 9 oz.
Wine of Opium..... }

Mix.

Sweet Wine of Iron.

Take of Tart. Iron and Potas.....3 drs.
Water of Ammonia.. .....1 dr.
Sweet Malaga Wine.....1 pint.

Dissolve by trituration.

Brodie's Liniment.

Take of Sulph. Acid.....1 dr.
Olive Oil.....1 oz.
Oil of Turpentine.....1 oz.

Add the acid gradually to the Olive Oil, stirring it in a mortar; when cool add the Oil of Turpentine and mix.

Canada Liniment.

Take of Water of Ammonia.....1 oz.
Olive Oil.....1 oz.
Oil of Turpentine.....1 oz.
Alcohol.....1 oz.
Oil of Peppermint.....½ oz.

Mix.

Bell's Gargle.

Take of Borate of Soda.....2 drs.
Yeast
Honey, of each.....½ oz.
Boiling Water.....7 oz.

Mix.

Gregory's Powder.

Take of Calc. Magnes.....6 drs.
Powdered Rhubarb.....3 drs.
Powdered Ginger.....1 dr.
Mix.

Chapman's Mixture.

Take of Bals. Copaiva.....1½ oz.
Spirits of Nitre.....1 oz.
Gum Acacia.....6 dr.
Water.....4 oz.
Syrup.....1 oz.
Tinct. of Opium.....1 dr.
Comp. Sp. Lavend.....4 dr.
Mix.

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*Hope's Mixture for Dysentery.**

Take of Nitric Acid.....8 drops.
Tinct. of Opium.....40 drops.
Camphor Water.....8 oz.
Mix. Dose—a tablespoonful.

PRESENTED BY MR. J. CANAVAN, OF NEW YORK.

Troch. Sanguin. Canad.

℞. Pulv. Sang. Canad.....℥ss.
Pulv. Ext. Glycyrrh.....℥viij.
Tinct. Tolutan.....℥j.
Syr. Tolutan.....q s.
Mix, and make into 480 Troches.

Ung. Sedativ. (Dalley's Subst.)

℞. Acet. Morph.....gr. ij.
Plumb. Carb.....gr. v.
Plumb. Acet.....gr. xv.
Ung. Simplic.....℥j.
Mix. Ft. Ung.

*For the original Recipe, as published by Dr. Hope, which differs from the above, (See Parrish's Pharmacy, 1st edition, p. 461.)

Troch. Ferri Carb. Præc.

℞. Ferri Carb. Præc.....ʒxij.
Chocolat. q. s. ad ft.....lb. vj.
Mix. Ft. in Troch. *aa* gr. xv.

PRESENTED BY CHARLES T. CARNEY, OF BOSTON.

Liniment. Brodii.

℞. Ol. Olivæ.....
Ol. Terebinthinæ..... } *aa* Oj.
Acid Sulph.....ʒij
Mix. Care must be used to prevent too great an evolution of heat.

Liniment of St. John Long.

℞. White and Yolk of one egg.
Oil of Turpentine.....ʒvi.
Acetic Acid.....ʒi.
Oil of Lemon.....gtt. xij.
Rose Water.....ʒv.
Mix.

"*Sluggs.*"

℞. Sub. Mur. Hydrarg.,.....
Pulv. Gambogiæ..... } *aa* ʒii.
Pulv. Aloe. Socot.....
Mix. Fiat pil., 5 grs. each.

Grave's Pills—for Amenorrhœa.

℞. Ferri Carb .....
Myrrhæ Pulv..... } *aa* ʒi.
Cubebæ Pulv.....ʒss.
Capsici Pulv.....ʒiv.
Ext. Gentian.....ʒss.
Mix. Make pills 4 grs. each.

"*Hunter's Red Drop.*"

℞. Spirit. Lavand. Comp.....ʒi.
Hydr. Chlor. Corrosiv.....grs. x.
Acid. Hydrochloric.....grs. x.
Misce. Signa, "Gtts. v. ter in die."

"Infusum Guthrii."

℞. Sodæ Sulph.....ℨiv.
Fol. Sennæ.....ℨss.
Sem. Coriand.....
" Fœniculi..... } aa ℨi.
Mix. Steep in one pint water. Dose—fℨi.

Miller's Pills—(Pil. Gambogiæ Co.)

℞. Pulv. Scammonii.....
" Aloes Socot.....
" Gambogiæ..... } aa ℨiiss.
" Sub. Mur. Hyd.....
" Potassæ Sup. Tart.....
Mix. Make pills 5 grs. each.

PRESENTED BY C. H. ATWOOD, OF BOSTON.

Tinct. Croci Sativ. Comp. (Dr. Palmer.)

℞. Fol. Sennæ..... } aa ℨi.
Mannæ Opt.....
Colocynth.....ℨss.
Croc. Sativ.....ʒij.
Pulv. Opii.....ϑss.
Aquæ Bullient.....ℨxii.
Infuse until cold, and add
Tr. Aloes et Myrrh.....ℨviij.
M. Makes Oj.

Syrup. Taraxaci Comp.

℞. Eupatorii Perf.....ℨij.
Rad. Zingib.....ℨss.
Caryophylli.....ℨss.
Aquæ.....Oiss.
Simmer away one-third, strain and add
Sacchari albi.....ℨvi.
Ext. Taraxaci.....ℨiv.
Spir. Vini Gall. Opt.....ℨviij.
M.

Tinct. Arnicæ Concentrata. (*C. H. Atwood.*)

℞. Flors. Arnicæ.....℥ij.
Alcohol 80°.....℥x.
Aquæ bull.....℥vi.
Add the water first and soak, then displace with the alcohol.

Syp. Scillæ Aquosus.

℞. Rad. Scillæ.....℥iv.
Aquæ.....Oij.
Digest 7 days and filter, then add
Sacch. albi.....lbs.iij.
Boil slightly and strain.

Tr. Belladonnæ Ext.

℞. Ext. Belladonnæ.....grs. iij.
Alcohol. Dilut.....℥i.
M.
Dose for a child 1 year old 1 drop, twice a day.
" " 8 " 10 " "

PRESENTED BY DANIEL HENCHMAN OF BOSTON.

Tinct. Chloroformi.

℞. Chloroformi, Tinct. Opii, Tinct. Camphoræ, Spt. Ammoniæ Arom.....*aa* ℥iii.
Ol. Cinnam.....gtts. vi.
Spt. Vin. Galli.....℥iv.
M.

Inf. Cinnam. Comp.

℞. Cort. Cinnam, Rad. Rhei, Sodæ bi-carb.....*aa* ℈vi.
Aquæ Bullient.....℥xxx.
Spt. Vini Galli.....℥iii.
Fol. Menth. P.....℈vi.
Tinct. Menth. P.....℥iss.
M.

Tinct. Cinchonæ Ferrata.

℞. Tinct. Cinchon. Comp.....1 gall.
Sesqui ox. Ferri.....℥i.
Digest and filter, heat up to 130° and add
Ammonia Cit. Ferri.....grs. xvi.
M.

Ung. Althææ.

℞. Rad. Althææ.....
Sem. Fœnug.....
Sem. Lini..... } *aa* ℥ii.
Adipis.....℥lx.
Simmer over a slow fire for 3 or 4 hours, strain, and add
Ceræ Flavæ.....℥vi.
Terebinth.....℥ii.
Resinæ.....℥iii.
Pulv. Curcumæ.....℥iij.
M.

Tinct. Cinchon. et Caryoph.

℞. Cort. Cinchon. Rub.....℥i.
Cort. Cinnam. veræ.....℥ss.
Caryoph.....℥ii.
Spt. Vini Rect.....Oi.
M. Digest and strain.

Tinct. Araliæ Spinosæ.

℞. Araliæ Spinosæ.....
Rad. Rhei..... } *aa* ℥ii.
Spt. Vini Galli.....2 lbs.
M. and digest.

Ung. Croci.

℞. Croci.....℥i.
Aquæ.....℥viii.
Boil to 4 oz. or less, then add
Adipis.....℥viii.
Boil to proper consistence and strain.

Syr. Sanguin. Canad. Comp.

℞. Rad. Sanguin. canad.....℥i.
Lycopi.....℥i.
Aquæ.....℥xvi.
Sacch. alb.....℥xvi.

Boil to one-half, strain and add sugar.

Inf. Sennæ Comp. Hospital.

℞. Fol. Sennæ, Mannæ..... } aa ℥i.
Rad. Jalapæ, Potassæ Sup. Tart, Sem. Carui..... } aa ℥ij.
Aquæ Bullient.....Oi.

Infuse 12 hours and strain, then add

Tinct. Sennæ Comp.....℥vi.

Syr. Quassiæ Comp.

℞. Rad. Sanguin. canad., " Senegæ, " Rhei., " Glyc., " Ligni, " Quassiæ..... } aa ℥i.
Aquæ.....Oij.

Boil and strain, add

Sacchari albi.....℥xvi.

And form syrup.

Emp. Flor. Ung.

℞. Ceræ Flav.....2 lbs.
Resin.....3 lbs.
Sevi ovilli.....2 lbs.
Terenbinth. Ven.....℥iv.

Melt and add

Camphoræ.....℥ii.

Dissolved in Ol. Olivæ q. s.

Tinct. Gum Flav.

℞. Gum Acroides Resin.....℥iv.
Spts. Vini Rect.....2 lbs

Digest with a gentle heat two days, and strain.

Tinct. Lyttæ. vittatæ.

℞. Lyttæ vittatæ.....ʒx.
Spts. Vini Rect.....1 lb.
M.

Tinct. Rhûs Vernicis.

℞. Rhûs Vernic.....ʒii.
Spir. Vini gall.....ʒxvi.
M.

PRESENTED BY T. LARKIN TURNER, OF BOSTON.

Mist. Alkalina of John Stevens, M. D.

℞. Aq. Menth. Sativ.....ʒvi.
Carb. Potass.....ʒss.
Tinct. Opii.....gtts. xxx.
Tinct. Cinnam.....ʒij.
M. and filter.

Syrup. Taraxaci. (*J. Stevens, M.D.*)

℞. Thoroughwort (Eup. Perfol.).....ʒij.
Ginger and Cloves, *aa*.....ʒss.
Ext. Tarax.....ʒiv.
Water.....Oiss.
M. Boil to one-third, strain and add
Sugar.....lb.iss.
Brandy.....Oss.

Pil. Asthmatic. (*J. Stevens, M. D.*)

℞. Gum. Ammoniac.....gr. xv.
Sapon. Castil.....gr. xxx.
Pulv. Scillæ.....gr. xii.
Pulv. Opii.....gr. ij.
M. Divide in pil. No. xii.

Emp. Sedativum. (*J. Stevens, M. D.*)

℞. Emp. Olivari.
To be spread and sprinkled with powdered Camphor and Opium.

Dr. (John N. D. V.) Prouk's Emp. Hyd. Comp.*

℞. Emp. Hyd.....4 parts.
Gum Galbani.....
Resinæ Pini..... } *aa* 1 part.
M. S. A.

Syr. Ferri oxidi Rub. (Asa B. Snow, M. D.)

℞. Ferri oxidi Rub.....℥v.
Ext. Conii.....℥ijss.
Sp. Vini Retif.....℥i.
Ol. Cit. Med.....gtt. vi.
Syr. Tolu.....℥iii.
Aquæ.....℥viij.
Sp. Vini Gallic.....℥ij.
Sacch. Albi.....lb. ss.
M. Ft. Syrup. S. A. Dose:—Table spoonful 3 times a day.

Tinct. Alkali Comp. (Asa B. Snow, M. D.)

℞. Hard-wood ashes.....Oij.
Common Soot.....wine glass i.
Aquæ.....Ovi.
M. Digest, settle and filter, and sometimes add
Opii Tinct.....℥ij.
to ℥iv. of the mixture.
Dose:—Table spoonful 3 times each day.

PRESENTED BY JAS. C. LEAMY.

Glycerin with Iod. of Iron.

℞. Resublimed Iodine.....℥j.
Iron wire.....q. s.
Glycerin (Price's).....℥x.
Dist. Water.....℥j. or q. s.

Mix the iodine with the water in a porcelain capsule, and gradually add the iron wire, stirring constantly. Heat the mixture until it acquires a light greenish color, then filter the solution into a capsule containing five ounces of the glycerin, taking care to keep the end of the funnel under the surface of the glycerin; then place the vessel containing the solution and glycerin on a water

*He was a German physician of considerable celebrity and practice in Boston, as late as 1839.

bath, and evaporate until it measures five ounces. Add this to the remaining five ounces of glycerin, previously placed in a 12 ounce bottle, and shake well together. This preparation is of a pale straw color, ferrugineous, but not unpleasant taste, entirely free from sediment, and will keep any length of time. It is of about the same strength as the officinal syrup; the dose, therefore, would be the same.

PRESENTED BY WM. HEYSER, JR., CHAMBERSBURG, PA.

℞ Tinct. Opii.....f℥viij.
Cretæ ppt.....℥i.
Sacch. alb.....℥ij.
Ol. Anisi.....f℥ss.
Aquæ.....Oiss.

J. L. Suesserott.

This formula is a modification of the "Mixtura Cretæ" of the U. S. P., and is known here as "Anodyne Chalk Mixture." It is much used for children in cases of Colic, Cramp, Flatulence, Diarrhœa and Summer Complaint, in doses varying from 5 to 30 gtt., according to age.

PRESENTED BY W. S. THOMPSON, OF BALTIMORE, Md.

Syrup. Asari Canad. Comp.

℞. Rad. Asari Canadensis.....℥ij.
Alcohol, 80 per c.....f℥vj.
Aquæ puræ.....f℥xij.
Cocci Cacti.....℈i.
Potass. Carb.....℈ij.
Vin. Ipecac.....f.℥j
Sacch. alb.....℥xxiv.

Make a tincture of the root with the alcohol and water; filter and add the sugar and other ingredients.

Formula of Dr. J. C. S. Monken.

Nutritive Ointment.

℞. Litharge in fine powder.....℥v.
Vinegar.....f℥iij.
Olive Oil.....f℥xiij.

Rub well together in a mortar.

Syrup. Sennæ Aromat. Comp.

℞. Sennæ Alex.....ℨiv.
Rad. Jalap.....ℨiss
Rad. Rhei.....ℨss.
Cinnamomi.....ℨi.
Caryophylli.....ℨi.
Myristicæ.....ℨss.
Ol. Lemon.....m. xx.
Sacch. Alb.....ℨxxiv.
Alcohol dilut.....q. s.

Reduce the roots, leaves and spices to a moderately fine powder, and treat with the diluted alcohol, by percolation, to exhaustion; when about one quart has passed, evaporate by means of a water bath to 18 fluid ounces, and filter if necessary; then add the sugar and dissolve by water bath; when cold add the Ol. Lemon. It should measure 32 fluid ounces.

Essence or Concentrated Tincture of Columbo.

Columbo Root.....ℨxvj.
Alcohol, 80 per cent.....q. s., to displace 32 fluid ounces.

The root should be reduced to a coarse powder.

Essence or Concentrated Tincture of Cascarilla.

Made in the same manner as Essence of Columbo, and in the same proportions.

Tinct. Rad. Phytolac. Decand.

℞. Rad. Phytolac. dec.....ℨvj.
Sem. Cardamom.....ℨij.
Alcohol. dilut.....Ojj.

M. Ft. tinct.

Wallace's Pills.

℞. Pulv. Aloes Socot.....ʒj.
" Scammon.....ʒj.
" Saponis.....ʒj.
Mass. Hydrarg.....ʒj.
Ext. Col. Comp.....ʒj.

M. Ft. mass. Div. in pil. xx.

Pulv. Carb. Ligni Comp.

℞. Sodæ et Potass. Tart.....ʒxlv.
Magnesiæ.....ʒxj.
Carb. Ligni.....ʒviij.
M. Ft. pulvis.

St. John Long's Liniment.

℞. Ol. Terebinth.....fʒxxxvj
Aquæ Rosæ.....fʒxxx.
Acid. Acetic (No. 8).....fʒvj.
M. Ft. liniment.

Ung. Camphor. Comp.

℞. Ceræ Flavæ.....ʒx.
Ol. Lini.....ʒxxiv.
Camphor.....ʒij.
Pulv. Opii.....ʒi.
M. Ft. ungt.
This ointment is known by the name of "Scattering Plaster."

Ung. Galban. Comp.

℞. Ceræ Flavæ.....ʒxvj.
Ol. Olivæ.....ʒxxiv.
Ol. Lini.....ʒxxiv.
Galbani.....ʒxvj.

Melt together and strain. Ft. ungt. This ointment is known by the name of "Breast Plaster."

White Caustic Lotion.

℞. Argent. Nit.....gr. x.
Hyd. Chlor. Corros.....gr. v.
Plumbi Acetatis.....ʒiss.
Zinci Sulphatis.....ʒiss.
Aquæ puræ.....f.ʒvj.
M. Ft. Lotion.

PRESENTED BY WM. H. GILMAN, WASHINGTON, D. C.

Pulv. Anisi Comp.

(Anise Powder.)

R. Magnesiæ Calcinatæ.....ℨj.
Rhei pulv.....ℨj.
Olei Anisi.....gut. xxx.
Tinct. Rhei q. s. to color pink.
M. and triturate thoroughly.

Tinct. Ferri Nitro-Sulph.

R. Ferri Sulph. exsiccat. } aa lb.j.
Acid. Nitric. }
Macerate on a sand bath for 24 hours and add
Alcohol. dilut.....Oj.
Dose, 5 to 20 drops.

Syrup. Actææ Comp.

R. Actææ Racemosæ contus. } aa ℨij.
Cort. Prun. Virg. }
Rad. Senegæ.....ℨj.
Rad. Glycyrrhizæ. } aa ℨss.
Rad. Ipecac. }
Alcohol dilute.....Oij.

Saturate all the articles (mixed) except the cherry bark, thoroughly with q. s. of the dilute alcohol for 24 hours, then transfer to a percolator and run through two pints; evaporate the excess of alcohol by a water bath, and convert into a syrup with sufficient quantity of sugar; lastly, treat the cherry bark with half pint of cold water, which add to the syrup previously cooled.

Syrup Picis Liquidæ.

(Syrup of Tar.)

R. Picis Liquidæ.....ℨiij.
Carb. Magnesiæ.....gr. lxxv.
Aq. Bullient.....Oj.
Boil and agitate for one or two minutes, filter and add
Acetic Acid.....ℨj.
Make a syrup with twice its weight of sugar.

Syrup. Carrageen Comp.

R. Rad. Senegæ contus.....
Rad. Scillæ contus..... } aa ℥ij.
Rad. Ipecac. contus..... ℥i.
Carrageen..... ℥i.
Sacch. Alb..... lb. vij.
Aquæ Bullient..... q. s.

Pour the boiling water upon the ingredients, excepting the sugar and moss. Set aside until cool, displace Oiiiss of the infusion, add the moss and sugar, boil for a short time and strain. To every pint of the syrup add

Tinct. Opii Camph..... ℥iv.

A dessert spoonful occasionally.

Tinct. Rubi Trivialis Co.

(COMP. TINCT. DEWBERRY.)

R. Rad. Rubi Trivial..... ℥iv.
Pulv. Gallæ alep..... ℥ss.
Pulv. Cinnam..... ℥iij.
Pulv. Capsici..... gr. x.
Pulv. Caryophyll..... ℥i.
Gum Kino..... ℥ss.
Tinct. Opii..... ℥i.
Ess. Menth. pip..... ℥i.
Spir. Vin. Gall. Opt..... Oij.
Sacch. alb..... Oj.

Digest for 14 days, filter, and add the sugar, Tr. Opii and Ess. Menth. pip. Teaspoonful for an adult.

Belville Ointment.

R. Hydrarg. Precip. Rub..... ℥ss.
Hydrarg. Chlor. Mit..... ℥ij.
Plumbi Acetatis..... ℥j.

M. Reduce to a very fine powder and add

Ceræ Alb..... ℥iv.
Olei Olivari..... ℥j.

M. S. A. et ft. unguent.

PRESENTED BY R. H. STABLER, ALEXANDRIA, VA.

Syrupus Cinchonæ.

℞. Cinchon. Rub. Contus.....ℨlxiv.
Alcohol, Diluti.....Cong. iv.

Macerate the bark, with just sufficient dilute alcohol to cover it, for 6 hours, express thoroughly. Repeat the process with the bark and alcohol until all the latter is used. Mix the tinctures and evaporate over a steam bath to seven pints, strain to separate resin and add

Sacchar. Alb. Pulv.....ℨclxviii.

Dissolve with the heat of a water bath. Let it cool and add

Quiniæ Sulph.....ℨxlii. grs. viij.
Alcoholis.....Oj.
Acid. Sulph.....ℨss.

The quinine previously dissolved in the alcohol and acid. Make it measure 2 gallons with hot water. Dose.—A teaspoonful; about equivalent to 2 grs. quinine.

The above is a modification of M. Donovan's process, published in vol. xvii. page 48, also the vol. for 1851, page 218, of the American Journal of Pharmacy.

Aqua Terebinthinæ.

℞. Ol. Terebinth.....f.ℨj.
Magnes. Carb.....ℨij.
Aquæ.....Oij.

Rub the oil of turpentine with the carbonate of magnesia, then with the water, gradually added, and filter.

Intended as a vehicle for other remedies; also as a good form of administering oil of turpentine in meteorism of typhoid fever, &c.

Dr. Murphy's Carminative.

℞. Tr. Valerianæ.....Oss.
Tr. Opii Acetat.....f.ℨx.
Pulv. Camphoræ.....grs.cxxviii.
Potass. Carb.....ℨiv et grs.viii.
Magnes. Carb.....ℨij.
Ol. Anisi, Ol. Menthæ } *aa* m. xl.
Aquæ.....Oiss.

M. Secund. Artem.

Sig. Dose for an infant 20 to 25 drops.

An improvement on Dr. Dewees' Carminative.

Pulvis Morphiæ Attenuatus.

℞. Morphiæ Sulphatis.....gr.j.
Sacch. Lactis.....grs.v.
Misce.

One grain is equivalent to one grain of opium. Intended as a convenient form of administering small doses of morphia in prescription to children.

Tinctura Doveri.

℞. Pulv. Ipecac.....
Pulv. Opii..... } *aa* grs.viii.
Alcoholis diluti.....f.℥j.

Macerate for 14 days and filter; or macerate 6 hours and displace a fluid ounce with dilute alcohol. f.℥j. equivalent to 10 grs. Dover's Powder. Used in combination with Sp. Mindereri, Effervescing draught and other antifebril remedies in liquid form.

Extractum Ipecacuanhæ Fluidum.

℞. Pulv. Ipecac.....℥iiss.
Alcoholis diluti.....q. s.

Macerate the ipecacuanha in eight fluid ounces of dilute alcohol for twelve hours and displace one pint of tincture with the same menstruum, evaporate by a steam bath to seven and a half fluid ounces; filter.

m. iij. equivalent to gr. j. of ipecac.

PRESENTED BY JAMES COOK, FREDERICKSBURG, VA.

Guttæ Vitæ.

℞. Pulv. Opii.....℥j.
Pulv. Kino.....℥ij.
Pulv. Camphor.....℥iij.
Pulv. Nuc. Moschat.....℥vi.
Sp. Ammon. Arom.....℥ij.
Coccinellæ.....℥ij.
Spt. Rectificat.....Oij.

Digest for 14 days and filter. Dose same as laudanum.

Millar's Powders.

℞. Calomel.....℥ij.
Pulv. Opii.....℥j.
Sacchar. Alb.....℥ix.
M. S. "Pulv. Millar."

Mode of administration for Cholera Infantum.

℞. Pulv. Millar.....gr.viij.
Pulv. Cinnamomi.....gr.xvi.
Pulv. Cancr. Lapile.....gr.xxiv.

M. Divide in Chartulæ xxiv. S. For a child of six months old or under one powder to be given every two or three hours, until a decided improvement is perceived in the evacuations.

Retaining the quantity of Pulv. Cinnamon and Crab's eyes in the above, we prepare the powder for children of twelve months and under, by increasing the quantity of Pulv. Millar. to 12 grains; for eighteen months, to 18 grains; and for two years to 24 grains, &c.

Ceratum de Lapide Calaminari.

[Turner's Treatise on Diseases, London, 1712.]

℞. Butyr. recent, Mense Maii collect. Sine Sale præpar. Ceræ
Citr. optime defœcat. *aa*.....lb.iijss.
Olei Olivari, rect. and purif.....lb.iv.
Lapid. Calamin. Select. Subtilissime trite et cribati.....lb.ij. et ℥x.

Liquescant Cera et Butyrum in vasculo propria, super ignemlentum una cum Oleo, et Liquefacta colentur per pannum cannabinum in Vas alterum sitimque insperge Pulverem gradatim, continuo agitando mix in fundo Vasis, donce, frigescere incipiat et Pulvis præpondera sue, non amplius subsidere possit.

PRESENTED BY A. E. RICHARDS, PLAQUEMINE, LA.

Compound Mixture of Senna.

Take of Senna leaves, bruised.....℥ij.
Cloves, bruised.....℥ij.
Ext. Liquorice, cut in thin slices.....℥iijss.
Water.....Oij.

Macerate in a covered vessel for 12 hours, occasionally stirring the mixture in the meantime: then strain and add

Sulphate of Magnesia.....℥x.
Syrup Buckthorn.....℥j.
Spts. Ammon. Comp.....℥ss.
Tr. Senna Comp.....℥ij.

This draught is given as a purgative, in doses of 1 to 2 oz. usually.

Another useful purgative is prescribed by a physician here as follows:

Take of Best Aloes.....ʒj. et ʒij.
Bi-Carb. Soda.....ʒij
Tr. Lavender Comp.....ʒj.
Water.....Oij

Mix and macerate 14 days, stirring the mixture occasioually, then strain. The dose, as an active purge, is 1½ to 2 oz.

The following Chalk Mixture is prescribed frequently by a physician here:

Take of Prepared Chalk.....ʒii.
Oil Anise.....gtt.xxxij.
White Sugar.....ʒj.
Rub these together, then add
Tinct. Opii Camph.....ʒij.
Tinct. Catecnu.....ʒij.
Water.....ʒxvj.

This is given in repeated doses every quarter or half hour, according to age and circumstances, till relief is obtained. The mixture to be shaken before use.

COMMUNICATION FROM DR. M. J. BAILEY.

[Appended to the Special Report of the Executive Committee.]

New York, September 7th, 1857.

To the American Pharmaceutical Association:

It was my intention, prior to my removal from the office of Special Examiner of Drugs, &c., in April last, to place before your valuable and highly important Association, at its present annual meeting, a lengthy report in detail, touching the historical data and practical operation of the law to prevent the importation of adulterated and improper drugs and medicines, from its inception to the present time. It was my intention to give not only a list of the various articles rejected by me from time to time, with the quantities specified, but also a similar list of the articles passed by me during the same period, that all who feel an interest in that measure, for the success of which I have toiled through some ten of the best years of my life, might be enabled to observe the relative proportion of inferior and worthless drugs, &c., presented for entry at the port of New York; but the fact of my unexpectedly retiring from office, and the official records passing into the hands of one with whom I could not, with a proper degree of self-respect, hold any intercourse, and that too before I had perfected the necessary memoranda, must be my apology for not performing that duty on this interesting occasion, which under other circumstances would have been so agreeable and gratifying to me. I must, therefore, crave your indulgence, and confine myself to such generalities as the present condition and the requirements of the law imperatively demands; assuring you, however, that I shall take such measures as will, I hope, at no distant day, enable me to give a full and complete report of the working of the law at this port, as well as a minute and truthful account of my stewardship in connexion with this wise national sanitary measure, not only under all the disadvantages, perplexities, denunciation and misrepresentations to which I was for the first two or three years subjected, but through a series of years, until most of the early

disaffected had become converts, and I had apparently lived down all opposition.

The law went into operation at this port on the eleventh day of July, 1848, and during my administration of it I shut out from consumption, or, in other words, rejected over nine hundred thousand pounds of unsafe, adulterated, and improper drugs and medicines; what was effected at the other ports during the same period where Special Examiners are stationed, I have no means of knowing. My efforts to obtain the desired information, not only for my own satisfaction, but for the purpose of embodying it in a forthcoming sanitary report in extenso, (not only upon the subject of adulterated medicines, but food and drinks,) unfortunately met with only a vague and very indefinite response. This is to be regretted, for the reason that the measure is truly a national one, and it is but right that its friends and even its enemies everywhere should know the extent of its action.

I fear that in too many instances the Special Examiner, feeling doubtful of his own ability to decide understandingly and correctly, is governed in his examination by the advice of that class of wholesale dealers who desire to keep on hand such an assorted stock as will meet the views of their customers in *price* as well as *quality;* and the consequence is that the list of his rejected articles under such influences and misguided action is necessarily so small that he hesitates in placing it before the public, a condition of things greatly to be deplored, and one directly calculated to render the law at ports thus protected worse than a nullity, and its administration a farce. These facts admitted, all must see the necessity of a speedy and radical reform, a reform that in my opinion can only be permanently effected by several important amendments to the law as it now stands upon the record.

On the passage of the bill through Congress, without a single negative voice, it was believed by me that it had been framed with all the care that the circumstances of the case and the then lights before its friends would admit; but almost immediately on its going into practical operation I discovered that several important points had been inadvertently overlooked. For instance, no provision was made in the bill securing to the Special Examiners under the act such ample and appropriate

accommodations, with the requisite apparatus, tests, reagents, &c., at government expense, as would enable the competent officer to perform the duties of his post promptly and efficiently without drawing upon his private means for the purchase of these indispensable requisites. Again, in case of an appeal from the Examiner's return condemning the articles under examination, the law very properly requires that "the Collector shall procure some competent analytical chemist, possessing the confidence of the medical profession as well as the Colleges of Medicine and Pharmacy, if any such institutions exist in the State in which the collection district is situated, who shall make a careful analysis," &c.; but unfortunately the existing law does not make it imperative on the part of the appointing power to govern himself by the same rule in filling the offices under the act. This oversight in framing the measure has proved an evil of no trifling magnitude; indeed, for the want of that perfectly consistent check upon the appointing power, the law is at present, and has been for years past, principally in the hands of those who have the confidence of no one except political demagogues.

The wording of the law can be, and should be so amended as not only to permanently remedy this important defect, but to secure it hereafter from the palsied and poisonous effects of political influences, from the palsied and poisonous touch of political vampires whose embrace is death. Let this be done, and let the salaries be increased to an amount that will secure competent men to fill the office at every port, give them the proper office facilities, and the wise sanitary measure in the entire success of which we have all taken, and still take, such a deep interest, although at present almost stranded on political quicksands, will at once become part and parcel of our revenue system, and prove what its friends at first intended, and what they still have a right to expect.

The law, imperfect though it be, has not had a fair trial, neither can it have as at present controlled and administered. Look at the condition of things at this port, where the office has been surrendered as a coveted, yea, a *demanded* recompense for political services rendered, while the merits, the importance and the requirements necessary to secure a faithful and efficient administration of the law seem, judging from the reported antece-

dents of my successor, not to have been taken into consideration at all, and this too at a port where full two-thirds of all the drugs and medicines imported into the country are entered. The man to whom is entrusted so great a responsibility, was at the time of his appointment, unknown to the trade, the importers, the medical profession, or the College of Pharmacy here, and if I am correctly informed, he did not present to the appointing power a single recommendation from these parties.

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Such being the facts of the case, all must admit, I think, that the day has arrived when some definite action should be taken, calculated to wrest the law from its downward tendency, and place it on a firm and enduring basis. Allow me to respectfully suggest to the Association the propriety of appointing a committee to take the subject into consideration, with power to confer with the medical profession for the purpose of securing a united effort, a united determination to effect at the next session of Congress such amendments to the law, and such reform in its administration as are imperatively demanded. Pharmaceutists took the initiative in effecting the passage of the law, and they were promptly followed by the medical profession, and so it will be in this instance if deemed desirable. In fact, I am informed that the Academy of Medicine, at its last meeting, a few evenings since, appointed a committee to take into consideration this very subject; and it is but a few days since, my friend, the venerable President, Valentine Mott, M. D., particularly desired me to request the Colleges of Pharmacy to confer with them, and promised their prompt and cordial co-operation. You will, I hope, pardon my zeal in this matter, for circumstances having connected my name so intimately with the inception, passage and progress of this measure,—a measure that has been approvingly and repeatedly quoted and commented on, by sanitary commissions, pharmaceutical and medical societies in Europe, as well as in this country,—it is but natural that I should feel a deep interest in its success, if such a consummation be possible; and notwithstanding I feel that great injustice has been done me, my energies have not in consequence become torpid, but will, as heretofore, be exerted in the good cause, until the law is perfected, has a fair trial, and is efficiently ad-

ministered at every port, or until it is abolished, and, to the disgrace of our government and our country, suffered to die of political strangulation.

Regretting my inability to be with you at your present meeting, I beg to tender to the Association my sincere thanks for the unexpected and deeply appreciated honor conferred upon me at the annual meeting of last year, while I remain,

Very respectfully, your obedient servant,

M. J. Baily, M. D.

Late Special Examiner of Drugs and Medicines at the port of New York.

SCIENTIFIC REPORTS AND ESSAYS.

REPORT ON NEW ENGLAND ISINGLASS.

By Charles T. Carney, of Boston, Mass.

At the last meeting of this Association, in Baltimore, was committed to me for investigation the substance known in commerce as New England Isinglass, with a view of ascertaining where and by whom the article is prepared and its mode of manufacture.

I have the honor to submit herewith such information as I have been able to gather upon this subject, and, in addition, I venture some remarks upon other kinds of fish isinglass, and modes of manufacturing the same, believing it a subject worthy attention.

Ichthyocolla, from two Greek words, meaning fish and glue, is mentioned by both Dioscorides and Pliny; the latter of these writers ascribes its invention to Dædalus. It is obtained from various fishes, some only of which have been hitherto ascertained. The finest kinds are obtained from various species of the Acipenser, but fish from other genera, viz., Gadus, Morrhua and others, also yield it.

The organ from which the isinglass is usually procured is the air bag or swimming bladder, sometimes termed the "sound."

This is a membranous sac filled with air, (containing from 69 to 87 per cent. of oxygen) placed under the spine in the middle of the back, above the centre of gravity. In most fish this sack communicates with the œsophagus or stomach by the "ductus pneumaticus;" in others it is an imperforate sac, and occasionally there are two sacs which communicate with each other.

As long ago as the year 1772 the manufacture of isinglass from fish was considered of enough importance, by Mr. Humphrey Jackson, of England, to become the subject of careful study; failing in his endeavors to ascertain in England the process fol-

lowed, he took a journey into Russia for the purpose of arriving at the true mode of manufacture.

In his paper, published in vol. lxiii. of Phil. Transactions, he says all authors who have hitherto described processes for making ichthyocolla, have greatly mistaken both its constituent matters and preparation, and cites in support of this assertion the remarks of M. Pomet upon this subject.

The latter author says, as to the manner of making the isinglass: "The sinewy parts of the fish are boiled in water until all dissolve that will; the gluey liquor is strained and cooled; after cooling, the fatty portion is removed carefully from the surface, the liquor itself boiled down to a proper consistency and cooled, cut in pieces, twisted into crescent shape and carefully dried upon sticks.

From this we could reasonably infer that all fish containing gelatinous matter could be used with advantage for the manufacture of this article, but the inference would be an erroneous one.

The sounds or bladders of fresh water fish in general are preferred for making the best and most delicate isinglass, but the article known in commerce as "American" is made from the air vessels of salt water fish.

It is a matter worthy consideration whether we cannot furnish from the sturgeon of our own rivers, isinglass that will equal that of Russia, which is derived from the sturgeon taken in the Caspian sea and rivers emptying into its basin.

The sounds or air vessels of the cod and hake bear great analogy with those of the Acipenser genus of Linnæus, and are in general so well known as to require no particular description.

Ichthyocolla is prepared in considerable quantities by the Newfoundland and Iceland fishermen. Their process is as follows: As soon as the fish is taken, they are split open, and the backbones, with the sounds attached, are thrown together in a heap; but previous to incipient putrefaction the sounds are removed from the bone and salted for preservation. If the sounds are cut out from the back-bone, the intercostal parts are left behind; these parts are the most valuable, and the Iceland fishermen are so sensible of this that they beat the bones upon

blocks until the "pockets," as they term them, come out easily, thus preserving the sounds entire.

If the bladers are preserved with salt this must all be removed by "freshening" in water before they are prepared as isinglass. After being thoroughly freshened, they are scraped free from all adhering mucous, slit open, washed with lime water to remove all oleaginous matter, then rinsed in clean water, and dried upon nets in the sun.

I am indebted to the kindness of Jabez R. Gott, Esq., of Rockport, Mass., for most of the information and statistics relating to the manufacture of the article known as New England isinglass. Mr. Gott is the oldest, and, in fact, the only manufacturer of this article known to me.

As early as the year 1822, or thereabouts, his process was the subject of a patent in this country; since that time experience has done much to simplify and improve the mode of manufacture.

I learn from him that the sounds or air vessels of the hake (Gadus mertuccius) are generally used, those of the cod having the disadvantage alluded to in speaking of the Iceland fishery process.

The sounds are collected by parties residing upon the seacoast of Cape Ann, and brought to Rockport for sale.

They are preserved by drying simply. After being taken from the fish, they are split open, cleansed from all membranous matter and dried upon cords or nets. It is preferable to dry them in this way rather than upon boards or sticks, as while the sounds are soft and wet, much of the gelatinous matter is absorbed by the latter substances, which decreases materially the value of the article for manufacturing.

After being again soaked in water until of a proper softness they are passed through rollers which knead them into a uniform pasty mass, resembling very much in appearance the dough of rye or Indian bread, and assume the form of a large, thick, homogeneous sheet.

This sheet is divided into strips, which are run through rollers again and again until reduced to the required thinness. These ribbon-like strips, after becoming thoroughly dry, are folded into bundles without much regard to the weight of each, and

constitute the article, familiar to all in the trade, known as American Isinglass or Fish Glue.

The amount annually made is about 6,000 pounds, which is manufactured in the winter season, labor being at that time more available than in summer.

The amount yielded by each fish will average about two ounces, and this fact will suggest the number of fish laid under contribution for this article. The sounds are preserved during the warm weather simply by being thoroughly dried, and assume the hard, horny appearance of those herewith submitted, 1, 2, and 3, which are the sounds of the hake fish. I also submit specimens of the manufactured article. New England isinglass finds its way into commerce chiefly through the New York market.

In this connection I would remark that Mr. Gott has also prepared an article of isinglass from the air vessels of sturgeons captured in our southern rivers, but that it was not considered superior, by those who used it, to that made from the hake sounds. This may have depended upon the fact that the sturgeons were taken from warmer waters than those furnishing the Russian isinglass, and as, from my investigations, I am led to the conclusion, that the process of manufacture does not materially add to the quality of the product, but that the superior quality of the Russian isinglass pre-exists in the fish yielding it, if such an expression is proper, I would again suggest the value of experimenting with the air vessels of sturgeon taken from some colder rivers of our country, with a view of equalling the product of Russia.

I was surprised to learn that the demand for New England isinglass was very limited, and unless some large increase in its consumption should occur, there appears to be no inducement for others to engage in its manufacture.

We find the preparation of this article, then, to be a very simple process; nothing more than certain membranous parts of fishes, divested of adhering mucus and dried in the air. The peculiar arrangement of the fibres of the article has doubtless attracted your attention, and this elongation is readily explained when the process of its manufacture is understood.

In speaking of the yield of isinglass from the sturgeon of Russia, the "Acipenser huso" of Linnæus, Mr. Jackson says,

(in apparent opposition to the general impression, which is, that the sturgeon on account of its cartilaginous nature would yield great quantities of isinglass,) that no part of the fish except the inner coat of the sound, or air vessel, promised the least success; this being so full of "rugæ," adheres so firmly to the external membrane, which is useless, that the labor of separating supersedes the advantage.

The intestines, however, which in larger fish are several yards in length, being cleansed from their adhering mucus and dried, are found surprisingly strong and elastic, resembling cords made from the intestines of animals known as "cat gut," and promised to be of some practical utility.

The characteristics need scarcely be noticed here. The best is a whitish, dry, tough, semi-transparent substance, unchangeable in the air, of a leathery aspect and a mawkish taste, nearly insipid. When steeped in cold water it swells, softens and separates in membranous laminæ. At the boiling point it dissolves in water, forming when cooled a white jelly, which is semi-transparent, soluble in weak acids, but precipitated from its solution by alkalies. It is gelatin nearly pure, and if not brittle, like other glue, it is because of its elastic texture.

The uses of isinglass are various and important. The principal consumption is for "fining" liquors, beer, wine, &c.; and it is noticed that during the conversion of isinglass into fining, the acidity of the menstruum seems greatly diminished, at least in taste; probably not on account of any alkaline property of the isinglass, but by its enveloping the acid particles.

As an article of food in the preparation of creams and jellies it is in great request. Four parts of it convert one hundred of water into a tremulous jelly.

It is used with gum as a dressing for silks and ribbons. The makers of artificial pearls employ it to fix the "Essence d'Orient" on the glass globules which form those pearls.

It is used, also, dissolved with gum ammoniac, as a cement, for joining broken china, &c. By spreading its solution upon silk the well known court plaster is made. Sheets of wire gauze, set in window or lamp frames and dipped several times in a solution of isinglass, answer instead of glass for some purposes. The outer surface should be varnished to protect it from damp

air. This application was made by M. Rochen, of France, and these panes of gelatin are now much used for lamps instead of the horn, in maritime arsenals of France.

ON THE MANUFACTURE OF IODINE FROM THE ASHES OF SEA-WEEDS.

By Thomas B. Porteus, of Boston.

As this paper is submitted with the essentially practical purpose of assisting those who may at some future time attempt the manufacture of Iodine in the United States, and of putting them in full possession of all the details necessary to a successful result, the author deems it proper to take a passing glance at the present state of the trade in Europe, so as to place before the reader a correct idea of the extent and sources of the production of this important article of the Pharmacopœia.

The principal seat of the manufacture is the city of Glasgow, Scotland, in which city and neighborhood there were engaged in the manufacture, in 1854, nine separate establishments, consuming on the average from 800 to 2000 tons of kelp annually. Beside these, there were two in Ireland, located at the head of Loch Swilly, as being conveniently situated in the centre of the kelp district. There are also two establishments in France, both carried on by Mons. Corneille; one at Brest, the other at Cherburg; so that in Europe there are about thirteen houses in all, exclusively engaged in supplying the world with the article of Iodine.

It is scarcely necessary to say that the only known source of iodine, commercially speaking, is the marine plants which grow spontaneously along all the northern coasts of Europe. Of the modes adopted in converting these into kelp, as the incinerated plants are called, we will have occasion to speak more fully in another part. Our present object is to give a correct estimate of the amount of kelp consumed annually, and the quantity of resulting products.

The quantity of kelp imported into Glasgow is generally about 6000 tons annually; it has, however, in some years amounted to

between ten and twelve thousand; the sum first mentioned being a fair average. The quantities used in the manufacture in Scotland and Ireland may be safely set down as follows:

Scotland,	Glasgow, . .	6000 tons.
	Borrowstoness, .	2000 "
Ireland, ...		1000 "
Total		9000 "

Of this amount, 7000 tons are produced in Ireland, and the rest in Scotland; the price on the average, at the various places of collection, is $20 per ton; the cost to the manufacturer of iodine, including freight and commission to the local buyers, is $25; these are the average; some kelps bringing as high as $40, this of course depending on quality. We have, then, say 9000 tons of kelp at $25, amounting to $225,000 yearly, expended in the purchase of this product of the ocean, which, but for the iodine manufacture, would assuredly go to waste, as in addition to what is made into kelp, they also get what they require for manure. Of this sum of $225,000, $175,000 is distributed along a coast in Ireland not exceeding two hundred miles in extent; and mostly indeed within the limits of one county, viz.: Donegal. Are these facts not worthy the attention of the seaboard inhabitants of Maine and Nova Scotia? Undoubtedly the time must come when the manufacture of kelp for chemical purposes will be one of the branches of trade on the American Continent; when it may be we cannot presume to say, but the initiative must be taken by the coast people, and we have no fear, if they produce a good article, but that the enterprise of Boston merchants would soon find means of turning it to profitable account.

The amount of iodine procurable from kelp has been variously stated, but is generally set down at about 10 lbs. to the ton. This amount would be too high an average for the article imported into Glasgow, as the adulteration of it, especially on the Irish coast, is carried on to an enormous extent, as much as thirty per cent. of stones and gravel being generally introduced during the process of burning; on the other hand, the writer of this has known kelp from some particular districts to yield 15 lbs. per ton for a series of years, and some as high as 20 lbs. to the ton.

If we take them at an average of 9 lbs. of iodine per ton, we will be pretty near the real amount.

But iodine is not the only valuable product of the manufacture; if it were so, it would never pay.

The "salts of potash" form a very important item in the manufacturer's calculation of profits; and in the properly separating these from their mixed solution in the kelp ley, consists the whole nicety of the process. The proper mode of doing this has been completely omitted in all works treating on this manufacture which we have seen, so that any person attempting the manufacture of iodine, trusting to the loose and careless phraseology of the books, would be groping in the dark; the result being inevitable failure. To obviate this, and place everything plainly before him, as briefly and with as few technicalities as possible, is the object of this paper.

To resume our estimate of products, the following tabular view will render it more clearly:

9000 ton kelp yielding,	9 lbs. iodine per ton,	81,000	pounds.
	500 lbs. chl. of pot. per ton,	4,500,000	"
	150 lbs. sulph. of potash per ton,	1,250,000	"
	300 lbs. mixed carbonate, muriate and sulphate of soda, called by the trade kelp salt,	2,700,000	"

This shows upwards of 2,600 tons of salts of potash introduced into the British market annually, incident to the manufacture of iodine. These are almost wholly consumed by the alum makers, and sell generally at about $50 per ton. From the cheapness of soda in Britain, the mixed carbonate and sulphate of that salt are difficult of sale, seldom bringing more than $6 per ton; but in the United States they might be wholly used up to advantage in the soap manufacture, all the soda salts used for that purpose being imported.

The insoluble residuum which remains after the exhaustion of the soluble contents of the kelp, and which amounts to about one half the original weight, when mixed with sand, is the universal flux used by the glass bottle makers in Scotland. The price generally paid is $1 per ton; the trade name for this residuum, which is a mixed silicate of soda and potash with various impurities, is kelp waste.

This then exhausts the number and quantities of the products incident to the manufacture of iodine from the incinerated ashes of sea weed, so that if we calculate the two French establishments to be equal to two medium Scotch in their consumption and product, the following table will be a very near approximation to the annual products and money value of the trade:

	Products of Iodine.			
Scotland and Ireland,	81,000 lbs.			
France, ...	19,000 lbs.	100,000 lbs.	$3.00	$300,000
	Chloride and Sulphate of Potash.			
Scotland and Ireland,	2,600 tons.			
France, . . .	500 "	3,100 tons.	$50 per ton.	155,000
	Soda Salts.			
Scotland and Ireland,	1,350 tons.			
France, . . .	300 "	1,650 tons.	$6.00 per ton.	9,900
	Kelp Waste.			
Scotland and Ireland,	4,000 tons.			
France, ...	1,000 "	5000 tons.	$1.00 per ton.	5,000
				$469,900

Four hundred sixty nine thousand nine hundred dollars. And this large sum, the result of a trade in an article discovered only in 1812, and not yet in anything like general use as a remedial agent more than a single generation; one of the many inestimable boons presented to suffering humanity in the progress of chemical science.

We now proceed to consider the modes adopted for the manufacture of iodine from kelp; and first in order as being the most important in view of the object of this paper, is

The preparation of the Raw Material or Kelp.

All the *deep sea plants* are more or less rich in iodine in contradistinction to those which grow above low-water mark; as a general rule those sea plants which are fully exposed to the action of the sun and air by recession of the tide, are unfit for the preparation of kelp for iodine making; they are characterized by being possessed, in a greater degree, of salts of soda than those which draw their sustenance entirely from the ocean,

these latter being extremely rich in potash salts and iodine as compared with the former, but varying in this respect considerably from each other. To those, then, who may essay the production of the most profitable kelp for the iodine manufacture, we would say, in a word, reject all those plants which may be procured by cutting them from the rocks at low water, as not worth the trouble and expense of preparing, and trust to the mixed kinds of deep sea plants which are abundantly thrown up on the beaches, after the storms have torn them from the submerged rocks. The best kind of sea plant for the purpose is the tangle, or Palmata digitata, or lieach, as the Irish call it. This is a plant growing from one long thick stalk, with branches about three inches in breadth, with a smooth and leather-like appearance, very greasy and slimy to the touch; when cast ashore in heaps it has a greenish yellow tinge. Wherever this is plentiful, a rich kelp is easily prepared.

Of course it is not to be supposed that anything like picking the kinds of kelp to be burned is practicable; the only object of these remarks is to indicate the general quality of the weed, so that beaches where these are not abundantly thrown up may be avoided, and districts where they are plentiful searched for and preferred. The quantity of weed required to make one ton of kelp may be safely set down at from twenty-five to thirty tons in its wet state, so that all kinds which may be cast ashore are of course indiscriminately mixed up in collecting; the quality of the article being determined by the general abundance of the said long tailed weeds.

Upon the weed being cast ashore by the surf, it is to be carted on to the most convenient spread field, which may be either the stony beach or rocks, or green sward. There it is to be spread out by means of pitch-forks in a moderately thin layer, and if the weather is warm and drying, it may be turned once or twice somewhat as hay is prepared, during drying, which will take four to five days, according to the weather; it shrinks considerably. When dry enough for burning, it is crisp and easily crushed in the hand. It is now to be collected into one or two large heaps in a convenient place for burning, which is done in a rudely made kiln, formed by the stones on the beach; the kiln should be about eight feet long by two and a half feet wide, and two feet deep.

A flat rock is generally chosen for the bottom, or a shallow hole, dry, lined with stones on the bottom, and the sides made with loose stones, built like a dry well, and turf laid outside with air holes to regulate the draft. A fire of wood is now kindled in the kiln and the dried weed gradually put on until the fire is fairly set agoing; the weed is now assiduously added all over the kiln, wherever the flame burns out, and this is continued until the whole weed is burned, or as long as the workman thinks necessary to continue. When about to stop, the fire is allowed to slack down, and the red mass of ashes are to be diligently stirred by two men, one at each end of the kiln, with an iron rake, until the mass becomes pasty, when the process is finished. If there is room, more weed may be burned in the same kiln by kindling a fire on top of the kelp and proceeding as before. The kelp, when cold, is to be taken up and housed for market.

The separation of the soluble contents of the Kelp.

The kelp is to be broken up by hammers into pieces of the size of egg coal; these are introduced into the steeps, which are square cast iron tanks about six feet long, four wide and four deep, with a faucet in the side at the bottom, to run off the ley; a rude filter of straw and cinders is placed over the aperture on the inside to prevent the fine dust from coming through with the ley. The steeps having been filled with the broken kelp, cold water is run on a few of them, the number depending on the size of the establishment, the rest are not watered; after standing eight or ten hours the water is strongly enough charged, the faucets are opened and the clear ley run into a cistern below; from this cistern it is pumped into the large cast iron evaporating vessels. Of its concentration there we will have occasion to speak hereafter. In the mean time the vessels which have been emptied are again filled, but this time hot water is used to expedite the solution; this after standing a night is to be run off and pumped into those steeps which had been left unwatered, there to take up from the fresh kelp a sufficiency of salts to make the ley strong enough to be pumped into the evaporating pans, thus saving fuel. In this way in a well regulated work the liquor of the steeps No. 1 are run on to No. 2, and these as they become spent are run on to No. 3, thus keeping up the supply of strong

ley for the boilers; this is a most important point in the economy of an iodine work. No. 1 being exhausted, is again to be filled and covered with weak ley from the others, and so on in rotation.

Of the Boiling.

And first of the Hydrometers. The Hydrometers used are those known as Twaddle's, and are three in number. No. 1 is graduated on the scale of water, as 0° at the top in degrees, and numbered at every second degree, as 2, 4, 6, 8 and so on to 24°. The use of No. 1 is to show the strength of the ley in the steeps when getting weak, and when the glass sinks to 2° the steep may be emptied. These are useful and simple instruments, and very easily understood by the workman. The ley from the steeps should, if possible, never be put into the boilers at less than 36° or 40°, if attainable, as this will obviate the necessity of evaporating a large quantity of useless water, and consequently save expense.

In regard to the separation of the mixed salts. They are taken out in the order of their insolubility, sulphate of potash being the first parted with by the ley, as it contracts in the evaporation. There are two methods of obtaining this salt; that which is adopted depending upon whether the operator wishes to crystallize out the salt, or merely to deposit it during the boiling; if the crystals are wanted, the ley from the steeps should not exceed 30° on the hydrometer, and should be boiled until it shows a pellicle on the surface, when a little should be taken out and blown upon by breath; this will occur when it marks on the hydrometer 42° to 44°. The fire should now be drawn out, and the hot ley ladled into the crystallizing pans, which are best made of cast iron; when cold, a layer of the salt will be found adhering to the sides of the vessel; this should be allowed to remain after the liquor is removed, and five or six different panfuls allowed to crystallize, one after the other, when the salt may be removed to make room for another quantity. This plan is, however, now seldom adopted, as it entails a loss of time in the cooling, and takes up too many vessels.

The other plan is this: the ley at 36° or 40° is evaporated up to 62° or 64° at one boiling. When it reaches 44° it then

begins to part with the sulphate of potash, which falls down to the bottom of the pan, in small scaly crystals, of a grey color; as these are apt to adhere to the sides of the pan, a scraper of iron, tipped with steel, is used to keep the sides free, and prevent caking, as this would endanger the safety of the vessel. The scraper is an iron rod about 6 feet in length, with the lower end broadened out to about 3 inches in width, and kept sharp. The salt, as it is scraped down and deposited, is scooped out with a long wooden-handled iron shovel, perforated with small holes to allow the water to drain off; a half cask with a few holes for drainage is placed with its edge over the side of the pan to receive the wet salt; this allows the liquor to drain back into the boiler. After the boiling has continued until a strong pellicle is formed on the ley, which will occur at 62° or 64°, the fire should be withdrawn, and after standing 20 minutes or so, the contents ladled into the coolers. A further deposit of sulphate will be found in the boilers; this is, of course, added to the rest in the cask and allowed to drain.

The liquor being now deprived of its sulphate of potash, will, upon cooling, deposit a plentiful crop of white crystals of chloride of potassium all round the sides and bottom. This liquor, when cold, must now be ladled into the boilers again for further evaporation; the bottom of the cooler, from which it has been taken, cleaned out and put into tubs with small holes in the bottom to drain the salt, the liquor being preserved and added to that in the boiler; the crystals on the sides will drain down to the bottom in a few hours, and then may be removed, mixed with the dried bottoms and sent to market.

The liquor from which these crystals were obtained, and which was returned again to the boilers, is now to be evaporated as before; this time the boiling is to continue until the hydrometer marks 66° or 68°; and during this boiling the soda salts begin to be deposited in the same manner as the sulphate was in the first. The pan must be diligently scraped and the salt put into a tub, and set to drain over the edge of the pan as before, keeping this deposit and the sulphate separate. When a pellicle is formed as before, which will be at 66° or 68°, the same mode of procedure is to be adopted as in the first case, and a further deposit of crystals obtained. When the liquor is cold, it is

again to be boiled, and the same process followed exactly as in the former cases. The deposit at this third boil being still soda salts, may be mixed with the salt from the second boil; the liquor should be brought to mark 72°, and again set aside to cool. Some manufacturers now stop the further concentration, but the majority prefer boiling a fourth time, proceeding exactly as directed for the three previous boils; all the deposited salt which falls during the last three boils, being soda salts, are stirred together. The first, or sulphate of potash, stored by itself, and the contents of the crystallizing vessels, or chloride of potassium, also kept separate. The liquor at the last boil should mark 74°.

The pans in which the evaporation is conducted are generally made about 7½ feet across the mouth, with a depth of 3½ feet. They should be set so that the flame may not strike the bottom of the pan, but play round the sides; this is done by setting the bottom solid on clay, and building a small arch in front, so the flame strikes the front of the pan, and dividing there, circles round the sides and escapes into the chimney on the back. This arrangement allows the salts deposited to collect at the bottom, whence they are easily ladled out.

The Extraction of the Iodine.

The quantity of liquid by these series of boilings has now been reduced to one-sixteenth of its original bulk. Or, to make it still clearer, allow that 16 pansful had been boiled at first, and now off the steeps; these by evaporation, and parting with a certain quantity of their soluble contents, are reduced to eight pansful, which again make four, and these two, until at the fourth boil one pan from the sixteen remains; this, as may be supposed, is highly concentrated, and holds in solution the iodine, in the form of an iodide or iodate of soda and potassa. After this liquor has become completely cold, it is ladled into an iron pan, (if lined with lead so much the better,) and is there subjected to the action of sulphuric acid; unconcentrated acid is best for this purpose; and to a quantity of liquor remaining after the process described as being the product of pans of the size indicated, from 8 to 10 carboys of acid will be required fully to saturate the free salts contained. The acid should be added gradually, as by setting two carboys over the neutralizing pan, and allowing it

to enter the liquid by means of small leaden syphons, very copious evolutions of gas are liberated during this process, and as the mixture must be diligently stirred, it is better to have the operation conducted near the chimney, into which a hole has been made, closed, when not in use, by a damper; the draft carries off the noxious vapors, and is a great convenience to the workman. The acid should be added in till the liquor is very sour, and a few drops of acid added to a small quantity evolves fumes of iodine readily. The liquid will now have a creamy yellow appearance, and should be kept undisturbed (except skimming the sulphur from the top,) until next morning, when it is to be transferred to the stile for sublimation. The stile should hold the above mentioned quantity of liquid twice; its size should be about 4 feet in diameter, and 2½ feet deep; the bottom cast to two inches thick, and set as a common boiler in brickwork; a leaden dome should fit into a flange round the rim, and be luted with fine clay; in the centre of this dome a circular hole should be left about 18 inches diameter, with a flange round its edge, into which a small dome should fit, and be luted; this, as well as the larger, should have handles soldered on, so that they could be easily lifted off when required; in the smaller dome two flanged holes are made to receive the bent ends of the leaden arms, which are to convey the fumes of the iodine into the receivers or condensers. These arms are made of moderately thin lead soldered in the form of a tube; they should be about 3½ inches in diameter, and their bent elbow luted into the flanged holes in the small dome. They should also at the top of the elbow have a small leaden plug like the stopper of a vial, which can be taken out occasionally by the operator to judge of the process of sublimation. The arms should be long enough to clear the edge of the stile about six or eight inches, their ends being there introduced into the receivers. These latter are large earthenware carboys laid on their sides, and having a neck and hole in the bottom. The end of the leaden arm is connected with the first receiver by having its end thrust about two inches clear into the hole in the bottom; the neck of this receiver is fitted into the bottom of the next, and so on through the series, which should consist of eight or ten placed in two rows, side by side, on a wooden frame; the two arms from the stile leading the iodine

as it sublimes into them, where it condenses. All the places where the joinings are should be carefully luted with fire clay.

Having thus described the stile and its accessories, let us see how it is to be wrought.

The stile should be filled with the neutralized ley up to within six inches of the brim; the larger dome not being moved for this purpose, the hole for the smaller dome being large enough for filling. A fire is now kindled in the small furnace of the boiler, and the liquid heated up until the leaden dome feels pretty hot. Never having used a thermometer to determine the heat, I cannot indicate the temperature nearer; it must not, however, at this point reach a boiling heat. The smaller dome is now to be luted on, the arms are luted into their respective places in this dome, and into the ends of the receiver, and the oxide of manganese is now to be added. The quantity for a stileful, the size indicated, is from 60 to 80 lbs. finely ground; it is introduced through a hole left in the top of the larger dome, near the side; this hole is about 2½ inches in diameter, and a wide funnel, such as grocers use, is inserted so as to facilitate the introduction of the manganese. When this is fairly introduced, it is rapidly stirred for a minute with a stick through the hole. The hole is then stopped with a wooden plug cased with thin lead, and the heat is gently kept up, until, on withdrawing the small stopper in the arms, the fumes of iodine are scarcely observable; this, according to the quantity of ley, will be from three to six hours. The process completed, the fire is withdrawn, the arms removed from the end receiver, and the hole plugged with old cloth of any kind to prevent escape. The receivers are allowed to stand so until cool, when they are disconnected, and tilted gently to remove the condensed steam; they may then be replaced and used three or four times before the iodine is removed. The liquor in the stile is then run off with a syphon, a stream of cold water being conveyed into it at the same time. As the acid liquor attacks the iron very readily, it is good economy not to neglect the emptying of the stile, but have it done immediately after the process is finished.

ON HENBANE OF AMERICAN GROWTH.

By Frederick Stearns, of Detroit.

Having been appointed by the American Pharmaceutical Association, at its meeting in September last, to report upon the natural growth of Henbane in Michigan., I would respectfully submit the following:

From obvious reasons I was unable to proceed to any examination of this plant last season, and my observations have been confined to the months of May and June last.

The preparations of this plant, specimens of which are herewith submitted, were prepared in form and immediately submitted, with corresponding ones from the European grown plant, prepared partly by myself, the rest imported, to test, in the hands of several physicians of Detroit, and also given to the physicians of St. Mary's Hospital for the same purpose.

The short time which has intervened has not allowed of as sufficient a test of the comparative merits of our Michigan Henbane with the foreign plant, as would appear conclusive in the experience of those employing it, or be considered of sufficient importance to be placed before the Association. It is only after using the various prepared extracts of this plant for a considerable length of time, that the practitioner would be justified in forming and promulgating an opinion concerning it.

The Hyoscyamus niger is found growing in considerable abundance in the State, particularly on the banks of the Detroit and St. Clair rivers, rarely in the upper Peninsula, and it also abundant in the Western Canada Province. Of its early history and introduction nothing is known, and the impression among some of our botanists is, that it is an *indigenous*, and not a naturalized plant. But it may with safety be presumed, that its introduction is due to the French, by whom this State and the surrounding country was first settled in the early part of the last century. It is found most abundantly near Detroit, and other places first settled by the Jesuits. I learned that there was a mass found quite abundantly in the upper Peninsula, which is found nowhere else on the continent, but is grown plentifully in Europe; this was probably introduced in the same way.

I have found it most plentiful on the high sandy banks of the rivers, near fences by the roadside, and near the remains of old barns and houses.

The botanical characteristics of the naturalized plant are identical with those of the European plant; it flowers in June.

I collected the leaves only of the biennial plant while it was in full inflorescence, and while the seed vessels were still soft and juicy, this being the time, according to competent authority, that the plant exhibits the greatest activity. I observed abundant evidence that it was eaten by cattle, also that it was the food of a variety of insects.

The leaves collected in a dry, moderately warm day, yield by average *one seventh* of their weight of dry herb.

The naturalized herb yields by average *one hundred and forty* grains of inspissated juice, U. S. P., to every *pound* (troy) of fresh leaves, or *two and seven-sixteenths* pounds (avoir.) to every *hundred* pounds (avoir.), about *one fortieth.* Pereira states in his work on Materia Medica, that the yield from English plants is between *four* and *five* pounds from the fresh leaves and tops, to every *hundred weight,* or *one hundred and twelve* pounds, about *one twenty-fifth.*

The yield of hydro-alcoholic extract from the dried leaves of the naturalized plant, is, upon an average, *eighteen hundred* grains to *one* pound, (troy) equivalent to *twenty-five and three-fourths* pounds to every one hundred pounds, (avoir.) a fraction over *one-fourth.*

I found that the yield of extract, (hyd. alc.) from the best selected foreign dried leaves would average *sixteen hundred and eighty* grains to the *pound,* troy, or *twenty-four* pounds to *one hundred,* avoir., a fraction under one-fourth.

The extracts produced in conducting these experiments were prepared with care after the methods directed in our Pharmacopœia.

I also prepared Extract Hyoscyamus after the Prussian Pharmacopœia. This method was discussed in a paper presented to this Association by S. S. Garrigues, at its last meeting. It consists of employing alcohol and water for the extraction of the active principles of the plant, but employed separately; the water first which extracts the extractive matter with the slime and gum,

but leaves the chlorophylle. Then the watery solution is mixed with alcohol, which precipitates the gum and slime. After expression and filtration, it is evaporated to the proper consistence on a water bath.

By this process I found the yield from fresh leaves to be *one hundred and eighty* grains to the *pound*, troy, equivalent to *three and one eighth* pounds to *one hundred*, avoir., or *one thirtieth*, which is a little more than Dr. Mohr obtained, his averaging *one twenty-ninth.*

The process of the Prussian Pharmacopœia suggested its employment in preparing a fluid extract of Hyoscyamus as follows:

I cut up and thoroughly bruised in a stone mortar *two* pounds (troy) of the fresh leaves, and subjected the mass to powerful pressure; the mass removed from the pulp was treated with *four fluid ounces* of water, and again well pressed; the two solutions obtained in this way were mixed and strained, and brought in a water bath down to *five fluid ounces.* Thus reduced, it was mixed with *five fluid ounces* of 95 per cent. alcohol, and allowed to rest, with occasional agitation twenty-four hours, then placed upon a linen filter; and after the most liquid portion passed, the balance slightly pressed; that remaining in the filter was again treated with *two fluid ounces* of alcohol at 60 per cent. and then pressed again. The solutions mixed and filtered, *eight ounces*, troy, of refined sugar being added, was dissolved by means of a water bath, and the whole evaporated until it measured *sixteen fluid ounces.*

It forms a clear, fine looking fluid extract, permanent and agreeable to the taste; twenty minims of it being equivalent to *one grain* of the hyd. alc. extract of the Prussian Pharmacopœia.

The Extracts submitted to the Medical Profession for the purpose of test were as follows:

Inspissated juice, U. S. P., from American plant, made by myself.
Inspissated juice, L. P., from English plant, made by Herring & Co., London.
Hydro-Alcoholic Extract, U. S. P., from English dried plant, made by myself.
Hydro-Alcoholic Extract, U. S. P., from American dried plant, " "
Hydro-Alcoholic Extract, P. P., from American fresh plant, " "
Fluid Extract, (Empirical,) from American fresh plant, " "

The result of these experiments shows the yield from the natu-

ralized plant in inspissated juice to average less than that obtained in England from the plant grown there, though the difference may be due to the fact that the plant collected by me necessarily became somewhat wilted before being crushed and pressed, and in this way the full amount of extractive matter on the plant was not obtained in the Extracts prepared from the dried leaves; the naturalized plant averaged the greatest product in both processes, though the difference is but slight.

It remains to show, whether in the hands of the practitioner the Extract of Henbane from plant of American growth is *inferior* or *superior* to that from the foreign one.

ON AMERICAN LARD.

By I. J. Grahame.

In proposing at the last meeting of the Association to enter into an investigation of the subject of the adulteration of American lard, as asserted by Prof. Calvert of England, it was with the full intention of instituting such inquiries as would lead in the first place to the discovery, if any, of the manufacturers of such adulterated lard; and secondly, in accordance with the tenor of the query, to present to this meeting samples of the adulteration, and a statement of the most available means for its detection and preventage.

With this view, early after the adjournment of the Association last year, I made enquiry of a gentleman, (himself a foreigner,) largely engaged in the trade of pork packing and lard rendering, from whom I elicited the information that adulterated lard had been manufactured in this country to a considerable extent, but that in all instances it was carried on by agents sent here by English manufacturers, or by others from the same quarter, on their own account; and that it was intended exclusively for the English market, none of it, to the best of his knowledge, finding its way into our own market. I could not learn that the manufacture of such lard was then being carried on, nor could I procure specimens of the article for examination.

Subsequent to this period, various duties devolving on me, the special consideration of the subject was in a measure displaced from my mind.

The information I had previously received was, however, fully confirmed by another individual, who has been extensively engaged in the trade, and with whom I had conversation relative to the subject; and from him I further learned that such establishments are in operation in the city of New York; and although ostensibly designed for the English and West India markets, the spurious trash is palmed upon the ignorant and unwary of our own country.

From a recent publication of Dr. Hassall's work on the "Adulteration of Food and Medicine," I quote the following: "It should be understood that American lard, as brought to this country, is not in general adulterated. The adulteration usually takes place subsequent to its arrival, and is the work of some of our own manufacturers. The reason why American lard is so frequently selected for adulteration is, that it is of inferior quality and value, and so soft as to be almost fluid, some process of consolidation being indispensable before it can be employed as lard." Added to this it may be stated, that in the published observations of Prof. Calvert, in giving the process of adulteration, he describes the fatty matters such as they arrive from America being treated thus, and so implying that the adulteration is wholly the work of English manufacturers. I state these things in order to render it probable that the adulterated samples referred to by Prof. Calvert were of English make, notwithstanding the facts may be established by which we of this country may have been victimized to a greatcr extent than we are yet aware of.

With this view of the subject it is my intention to still farther prosecute it, in the hope of being able, in the course of another year, to present to the Asssociation something tangible in relation thereto. I would therefore ask the favor of the Association to indulge me in the further consideration of the subject.

ON ELATERIUM.

By Edward Parrish.

The undersigned, to whom was referred the question, "Can the Elaterium plant be availably cultivated in this country, with a view to the extraction of its peculiar product, and does the elaterium it yields compare favorably with the English drug?" respectfully reports, That through the kindness of Professor Thomas, of the Philadelphia College of Pharmacy, he obtained seeds of the Momordica elaterium, which, with a view to ripening fruit in time for the necessary experiments for this report, were planted as early in the spring as was deemed safe, but unfortunately decayed in the ground, owing it is believed to the unusually cold and wet weather of the last spring. As a consequence of this I am unable to throw any light upon the subject referred to me, except such as is furnished by the experiments of others.

The plant is a native of the South of Europe, and is cultivated in Great Britain, where, as with us, it dies down in the winter. Several years since, Prof. Thomas raised a very considerable crop of the fruit, from seed planted in his garden in this city. The plant grew with great luxuriance, branching and trailing over the surrounding space, and displaying when ripe the curious squirting phenomena which has given it its name.

Some of this crop of the cucumbers was submitted by a pharmaceutist of this city to the process given in the books for the preparation of elaterium; a product was obtained less dry and of a darker color than that imported from England. I am not aware that any experiments were made to test its efficacy as compared with the imported.

ON ARNICA.

By W. J. M. Gordon.

In answer to the query, "Has any attempt been made to cultivate the Arnica plant in New York, New England, or other parts of this country by the Shakers or others?" I will state, that in answer to an enquiry I addressed to H. A. Tilden, Esq., New Lebanon, N. Y., he says he has never attempted the cultivation of arnica, neither have the Shakers, but he has requested Mr. Bull, in London, to procure him some fresh plants. The society of Shakers at Lebanon, Ohio, say it is not cultivated there, and not by the other societies that they are aware of. I have made enquiries from various other sources, and am satisfied that it is not cultivated in this country.

REMARKS ON ERGOT.

By William Procter, Jr.

At the last meeting of the Association, (1856,) among the questions proposed for solution, during the interval till the next meeting, was the following, which was accepted by the writer:

"Does *Secalin*, the volatile alkaloid of Ergot, possess the utero-stimulant power of the drug itself? Does Propylamin, as obtainable from 'herring pickle,' and from 'Narcotin,' possess the same power as Secalin? In view of the result, what is the best formula for preparing a permanent fluid preparation of Ergot?"

It will be seen by the sequel, that only a part of this query has been answered, but it has been deemed best to report the following:

Ten thousand grains of powdered ergot was exhausted, nearly, with commercial ether in a percolator, and the residue spread on paper until the adhering ether had passed off. The ethereal tincture, exposed to spontaneous evaporation, yielded an oily residue of 2840 grains, which included a small portion of matter soluble in water and diluted alcohol, taken up by the ether, and deposited with the oil.

The dried residue of the ergot was mixed with water (containing six per cent. of alcohol, to retard fermentation,) macerated until each particle was saturated, introduced into a percolator and the same menstruum added gradually, until the passing liquid possessed but little taste or color. The liquid thus obtained was carefully evaporated to a syrupy consistence, then thrown into it five times its bulk of rectified alcohol, and the liquid filtered from the gummy albuminous precipitate. The alcoholic filtrate was then evaporated to six fluid ounces, poured into a tall glass alembic, and four ounces of liquid hydrate of lime (containing half an ounce of quick lime) added and mixed. A receiver containing a fluid ounce of water and ten minims of sulphuric acid, was accurately adapted and well refrigerated. The acidulated water was intended to fix the first vapors of secalin, which otherwise cause considerable tension in the atmosphere of the apparatus. The elimination of secalin was so rapid at first as to cause the contents of the alembic to boil over, and the receiver had to be changed, with some considerable loss from the escape of vapors, the room being strongly charged with the ergot odor of the secalin. On again distilling, with the receiver arranged as before, the process was pushed until the distillate amounted to six fluid ounces. This liquid had an alkaline reaction, all the acid having become saturated by the alkali: sufficient acid was then added to give an acid reaction, and one third of it set aside for therapeutical experiments. If a drop of this liquid is placed in a watch glass, and a drop of liquor potassa added, the odor of ergot is instantly produced, and if then a glass rod, moistened with hydrochloric acid, is held over it, abundant visible vapors of muriate of secalin will be observed. The residue of the acidulated distillate was placed in an evaporating dish and suffered to evaporate spontaneously until reduced to one eighth, and then finished at a temperature of 130° Fahr., (owing to a slight empyreuma having occurred near the close of the distillation, the evaporated distillate was colored brownish;) a crystalline mass of hydrochlorate of secalin remained, which had little if any odor of secalin.

The fixed oil was now examined. On washing it with a little acidulated water, the latter acquired color, and when mixed with potassa, the vapor of secalin was manifested by its odor, and when

brought near hydrochloric acid. This shows that commercial ether removes a portion of the secalin, and points to the necessity of washing the oil with acidulated water when it is rejected from a preparation of ergot.

Two vials of the distillate, of an ounce each, were placed in the hands of two medical gentlemen, for trial, in the hope that they would be able to report in time for the meeting of the Association, but as yet no return has been made.

It was not deemed necessary to isolate propylamin (secalin) from herring pickle, until the secalin of Winckler was satisfactorily shewn to be the active principle of ergot, as the interest centering in the determination of that point was presumed to be common to both.

It remained, therefore, to prepare a formula for a fluid preparation of ergot which should fully represent its activity.

1. Mr. T. R. Baker and others have shown that oil of ergot, freed from adhering substances, is bland, and has the composition of castor oil, or at least that the fatty acid (ergotoleic acid) of oil of ergot has a similar constitution with ricinoleic acid.

2. The experiments above show that commercial ether does remove some secalin with the oil. This probably arises from the alcohol present in small quantities, and points to the propriety of using purer non-alcoholic ether.

3. Powdered ergot moistened with water exhibits an acid reaction with blue litmus, and Winckler asserts that secalin exists in ergot, combined with ergotic acid (of Wiggers.) On inserting a glass rod moistened with HCl into the atmosphere of a bottle containing powdered ergot, but little if any visible vapors are observed, yet there is a distinct well marked ergot odor.

4. Does the normal odor of ergot arise from a gradual disengagement of secalin, or is it independent of that principle? To answer this question, it is necessary to compare the odor of ergot and secalin. They are different—as different as valerian and valerianic acid—yet the odor of valerian is largely influenced by the acid it contains. Further; the odor of recently dried conium is not that of conia, but of a peculiar volatile oil. But if conium is allowed to get old, the coniate of conia is gradually decomposed, the mouse odor of the alkaloid is given off, and the original conium odor greatly modified. Now the question arises,

does there occur a gradual atmospheric decomposition of the natural salt in ergot, as of that in conium? Water distilled from ergot does not possess its peculiar odor; on the contrary, the decoction in the still retains the ergot smell, which is enhanced and modified by the addition of liquor potassæ. On the contrary, a few drops of diluted sulphuric or muriatic acid entirely destroys the ergot odor of the decoction. May we not plausibly infer from this that the natural odor of the ergot is due to secalin loosely held by the organic acid of ergot, modified by associated matters? and as a consequence of this inference, does it not follow that an acidulated menstruum should be used in treating ergot, when its solution is to be evaporated? It may be asked, will the replacement of ergotic acid by a stronger acid affect the therapeutic or physiological action of ergot? It is thought not, because in all cases of alkaloids the salts are more active, because more soluble; yet this point is easily settled by trial, which want of time alone prevents. In view of these several points, the following formula for fluid extract of ergot is offered:

Fluid Extract of Ergot.

Take of Ergot, in powder, eight ounces (Troy.)
Ether,
Alcohol,
Water,
Diluted Acetic Acid, } of each a sufficient quantity.

Pack the ergot moderately in a suitable percolator, and pour on ether slowly, until a pint and a half of tincture has passed, and having spread the residue of the ergot on paper, suffer the adhering ether to pass off by evaporation. Meanwhile agitate well the ethereal tincture with two fluid ounces of diluted acetic acid, and in a proper distillatory arrangement recover the ether by aid of a water bath heat. Add two fluid ounces of water to the oily residue, agitate, and when subsided decant the oil from the watery fluid, and set them separately aside.

Prepare a menstruum of two pints of water, half a pint of alcohol, and two fluid ounces of diluted acetic acid, and having moistened the ergot residue with a pint of it, allow it to macerate two hours, introduce it into a percolator and displace with the remainder of the menstruum, slowly, till exhausted. Mix this

liquid with the acetic washings of the oil, and evaporate by means of a gentle heat, (say 150° F.) till reduced to four fluid ounces. To this when cold, add four fluid ounces of alcohol, separate the gummy precipitate by filtering, and wash the filter with sufficient diluted alcohol to make the fluid extract of ergot measure eight fluid ounces.

Fluid extract of ergot, thus prepared, is a laudanum colored fluid, thin consistence, a mild ergot odor and taste. A fluid drachm represents sixty grains of ergot, and the dose is from 20 minims to half a tea-poonful, or by adding a tea-spoonful to a table-spoonful of sweetened water, a tea-spoonful of the mixture will equal ten or twelve grains of ergot.

Some may question the necessity of complicating the process by the preliminary ethereal treatment. The reason urged for its propriety is that ergot contains nearly, if not quite, a third of its weight in fixed oil, which shields the particles from the action of the watery menstruum, and obstructs its thorough action. If omitted, more care will be required in the exhaustion of the ergot, with the menstruum directed.

ON SPIGELIA.

By R. H. Stabler, M. D.

The subject entrusted to me at the meeting of last year being strictly an experimental one, I shall confine my remarks to a detail of the methods pursued in the investigation and the conclusions drawn from them.

Twelve ounces of spigelia root was macerated in two gallons of water for twenty-four hours and seven pints distilled off into a narrow necked receiver; numerous white flakes rose to the top and were carefully collected in the narrow portion of the neck, and separated from the remainder of the liquid for examination.

It had a pungent odor and taste, unctuous feel, was soluble in alcohol and ether; to water it communicates its sensible properties, but is only soluble in small quantities in that menstruum; has a granular appearance under the microscope; carbonate of potassa renders it soluble in water, but destroys its taste and odor. The decoction remaining in the still was separated by expression from the root, treated with solution of sub-acetate of lead to excess, filtered, and the excess of lead separated by carefully adding dilute sulphuric acid until it ceased to cause a precipitate; again filtered, the filtrate evaporated over a steam bath to the consistence of a soft extract. Ninety-five per cent. alcohol was made to dissolve all this residuum soluble in it, which left a tasteless brown extractive. The tincture was filtered off, passed through a bed of animal charcoal to decolorize it, evaporated over a steam bath and treated with ether, which did not dissolve any portion of it. This substance has a reddish brown color, is uncrystallizable, neutral to test papers, deliquescent, and hence difficult to retain in the solid form, soluble in water and alcohol, insoluble in ether, and like the products of other members of the order Loganiaceæ, has an intensely bitter taste.

Carbonate of potassa or soda do not affect its sensible properties; solution of per-chloride of iron or sub-acetate of lead do not precipitate it from solution; infusion of galls appears to be incompatible with it, causing a precipitate when added.

When heated with liquor potassa and tested by muriatic acid,

vapor evidence of the presence of nitrogen was afforded. It froths with water when shaken with it, and when taken internally causes vertigo and headache. Whether the vermifuge properties of the root reside exclusively in this principle, experiment only can determine, which has not yet been done for want of opportunity; that it has the active principle of the root in an eminent degree I am convinced by the experiments on my own person, producing the narcotic effects attributed to the plant.

Another portion of root in coarse powder was exhausted with hot water, the infusion expressed from the marc, the latter then treated by maceration in eighty per cent. alcohol and displaced with more of the same menstruum, until it passed without color; the alcohol was evaporated by a gentle heat, when a brown resin separated having neither taste or smell if purified from the bitter principle above mentioned, and is, I believe, inert.

A third portion of root, in coarse powder, was treated with ether by displacement until it ceased to extract color from it; this was exposed in a shallow dish and allowed to evaporate spontaneously; the extract left was exhausted with boiling water, filtered, and solution of per-chloride of iron added, which gave a bluish black precipitate. The portion not soluble in hot water was a soft wax which gave out a pungent odor when heated, owing to its being impregnated with the volatile oil of the root.

The constituents of the root according to this analysis are

1. A bitter, uncrystallizable, proximate principle.
2. A volatile oil.
3. Tannin.
4. Inert extractive.
5. Wax.
6. Inert resin.
7. Salts of soda, potassa and lime.
8. Lignin.

In answer to the questions proposed at the last meeting of the Association, in 1856, I would submit the following, as warranted by the above data.

1st. The activity of Spigelia Marilandica resides in an acrid, bitter, proximate principle, soluble in water and alcohol, insoluble in ether; it is not volatile, is uncrystallizable, neutral and deliquescent.

2nd. The volatile oil, to which the feeble odor of the root is believed to be due, exists in small quantity only, and does not appear to contribute essentially to its activity; this odor is strongest in the fresh root, and as all vegetable remedies deteriorate by exposure and age, the odor of the root is an indication of its freshness only, and as such valuable, but cannot be regarded as an invariable criterion of activity.

3rd. Water and alcohol are equally good solvents of the active principle.

4th. The carbonated alkalies do not diminish its activity.

UPON IMPROVEMENTS IN METHODS OF RENDERING MEDICINAL PREPARATIONS PLEASING TO THE EYE AND TO THE TASTE, AND AGREEABLE TO USE.

By Frederick Stearns, of Detroit, Mich.

Next to efforts in the advancement of pharmaceutical skill and science, which secure increased efficiency to medical agents, there are none which meet the more ready appreciation of the physician, or insure the grateful remembrance of the suffering invalid, like those which tend to relieve the remedies employed of all repulsiveness in form, appearance, or taste.

While I am unable, from my own knowledge, to offer as much of value to the Association as could older and more experienced members, yet I submit the following *random* notes, and express the hope that some more skilful pharmaceutist will be appointed to report upon the same subject at our next meeting.

The administration of the officinal vinegars and dilute mineral acids, is rendered more agreeable by the addition of small portions of alcoholic solutions of any of the flavoring essential oils, lemon, wintergreen, pimento, Ceylon cinnamon, etc., or of spices; sugar, when not contra-indicated, is also an allowable adjuvant.

The popularity of the elixir of vitriol over the dilute acid is owing to its agreeability to the taste; dilute phosphoric acid

should have added to it a solution of the essential oil of the sweet orange.

Comp. tinct. cardamom, concent. infus. of rose, are excellent additions to medicated acids or vinegar, covering a portion of their taste, and imparting an agreeable color.

Prussic acid is best given in syrup of marshmallow. Lactic acid, which is now coming into use as a remedy for dyspepsia, indigestion, etc., is made into an agreeable drink with water, sugar and essence of lemon; it is also eligibly exhibited in the form of a pastill, in which form, also, the oxalic, tartaric, tannic and citric acids are most available.

Inert powders, or those which are comparatively so, it is said, can be made to produce a medicinal effect much quicker by long trituration with sugar of milk; in the case of ipecacuanha or of opium, this effect is rendered much greater; long trituration of calomel with the same substance, renders minute doses of it equal, in rapid and permanent effect, to quite large ones of the drug administered in the ordinary way.

Tasteless powders should be administered with aromatics, the milder spices, Ceylon cinnamon and the like; astringent powders can in this way be rendered less unpleasant.

Cane sugar, well dried and reduced to the finest possible state of division, by long trituration in a mortar, is an elegant vehicle in which to administer the alkaloids, and their salts, quinia, morphia, etc.; the *modus operandi* is as follows: instead of triturating the medicine and sugar together, mix the dose in its crystalline state, (without breaking it up,) by means of a spatula on a piece of paper, with a sufficient portion of the sugar previously powdered. In this way each crystal becomes enveloped with a dust of saccharine powder, and when placed upon the tongue and washed down with a draught of water, leaves nothing upon it but the sweet impression of the quickly dissolved sugar.

Mr. Maisch recommends the administration of the saline powders, ammonia salts, iron salts, potassa salts, etc., in effervescing draughts, by which their bitterness or pungency is in a great measure overcome. Those pharmaceutists who furnish "mineral" or carbonic acid water, possess the means of administering many similar substances, in an agreeable manner; a "Seid-

litz" is in this way administered without the necessity of giving an extra dose of tartrate of soda.

By an improvement in the processes of capsulation, the most volatile substances, ether, chloroform, turpentine, are now best administered in capsules of gluten; these are imported from France, and the "Perles d'Ether" of M. Clertan are certainly among the most beautiful and finished of the pharmaceutical productions of our accomplished co-workers, the French pharmaciens. Each capsule contains about five minims of ether, the empty capsule weighing but about two grains.

There is no reason why our list of officinal syrups should not be greatly extended, from the fact that sugar is an excellent preservative of the medicinal virtue of plants, proper regard being paid to the separation of the inert maters which excite fermentation; its agreeability as an excipient renders it grateful to the invalid; the cloying effect of syrups can be counteracted by the addition, at the time of using them, of some pleasant vegetable acid or acid syrup.

Many of the non-officinal fluid extracts, now so popular, could be converted into concentrated syrups by replacing part of the hydro-alcoholic menstruum with sugar.

I have in this way prepared, successfully, syrups of blackberry root, ergot, buchu, blood root, black cohosh, capsicum, cranesbill, dandelion, golden seal, hyoscyamus, horehound, lobelia, sculcap, yellow dock, etc.

Unless alcohol is desirable in fluid extracts, from a therapeutical point of view, it seems to me obvious that sugar could with advantage replace alcohol in nearly all the non-officinal fluid extracts, concentrated tinctures, etc., intended for internal use. A syrup of lime has been introduced as a substitute for lime water, it being a much more concentrated form of lime solution.

The phosphates are most eligibly exhibited in the form of syrups, particularly the phosphate of lime; a syrup composed of a solution in phosphoric and muriatic acids of the phosphates of soda, potassa, lime and iron with sugar, and pleasant flavoring, has come into general use, I believe, in some of the Eastern cities, particularly Philadelphia; it is used in consumption and dyspepsia, and from its elegant appearance and pleasant taste seems to be an eligible preparation.

A tincture formed by macerating the bark of Prunus virginiana in rum, is an agreeable addition in the way of flavor to our officinal concentrated syrup of sarsaparilla. The U. S. syrup of Prunus virginiana I have found to be one of the most delightful of adjuvants to cough mixtures; it is also an elegant vehicle for the administration of the most powerful anodynes, etc., used in pulmonary complaints; prussic acid only serves to give increased flavor of the cherry to this syrup when given in it.

I have found a syrup of roasted coffee excellent in covering the taste of quinia, morphia, etc. An infusion of roasted coffee is valuable in covering the taste of Epsom salts, senna, and of many bitter infusions.

In many extemporaneous mixtures, a syrup prepared from the essential oil and peel of the sweet orange, is agreeable as an adjuvant.

If pharmaceutists would generally prepare their syrup of ginger and tolu after the method of Mr. Finley, as published in the 23d vol. of the American Journal of Pharmacy, I think they would not have cause to regret the change from the turbid, inelegant ones of the U. S. P., to the beautifully transparent and strong ones prepared by his method.

Strong fruit syrups, prepared by dissolving with as little heat as possible, 2 lbs. troy of refined sugar in the expressed juice of any fruit or berry, make delightful adjuvants to numberless extemporaneous prescriptions of the physician; they are agreeable additions to effervescent draughts, and are best for flavoring mineral water syrups.

Syrups of Iceland moss, Irish moss, marsh-mallow, horehound, acacia, liquorice, liverwort, etc., are favorites in certain localities as cough remedies; infusions of the same with gum and sugar are formed into pastes, similar to jujube, and meet with ready sale.

Confections, though considered in their ordinary forms as agreeable methods by which to administer medicines, are improved by introducing the proper dose of any one of them into figs or dates, and prunes freed from their stones.

Jellies of raspberry, current, quince, blackberry, etc., are nice for disguising the taste of powders when given to children. A

little jam or jelly very nicely covers a bitter pill, for those who have a peculiar aversion to swallowing them.

Among the multitude of purposes for which pure glycerin is becoming available, its use as a solvent and preservative in pharmaceutical manipulations is most important; there seems to be scarcely a fraction as yet developed of the uses to which this wonderful substance can be applied in pharmacy.

Its solvent power, in most cases, equals that of alcohol or water, being sometimes even greater.

By mixing it with alcoholic or aqueous solutions, which are liable to change, they are thereby rendered permanent. Solutions of vegetable matter in it do not change or ferment.

It does not itself become rancid, and from its viscidity it can be used instead of cerate or oil as a vehicle for many substances used in embrocations.

The disagreeable sulphurets are soluble in it, and their solutions are among the most available methods of administering them; iodine and its salts, are dissolved by it.

Liq. iod. iron, syr. iod. iron and manganese, syr. iod. zinc, prepared with glycerin are recommended as elegant and eligible.

Escharotics of the deliquescent kinds are rendered particularly available in solution in glycerin, their action is much more controllable, and as the glycerin does not dry, their action is more persistent. The terchloride of antimony (cryst.) iodide and chloride of zinc, nitrate of mercury, chromic acid, etc., are among those suitable to use in glycerin. It forms solutions of the deliquescent salts, of the sulphate of potassa and soda, of the alkaline chlorides, and even of oxide of lead.

The salts of the vegetable alkaloids can be exhibited, dissolved in this substance, as embrocations or otherwise. It will dissolve bin-iodide of mercury in sufficient quantity, so that ½ teaspoonful will contain a sufficient dose. It is useful in emulsions, of copaiba and of oils; it aids in covering the taste of the nauseous ingredients.

It is suggested to use glycerin on account of its superior solvent power over fat or oil in the extraction of the active matters of the leaves of savin, stramonium, cicuta, dulcamara, elder, tobacco, etc., in place of the cerates as now prepared from these plants. It is superior to oil in imparting flexibility to collodion. Its preservative power is available for the preservation of

vaccine lymph, the recent dry scales of which can be dissolved in it and kept unchanged for a length of time.

It is proposed that it be substituted for sugar in some of those medicinal syrups which are so liable to ferment. The properties attributed to it as a fattener would give additional value to it as a vehicle for ague remedies, as in syr. ipecac., syr. scillæ comp. Its bland and soothing properties when applied to the skin in an irritated or inflamed state, have caused it to be much used therefor. And I have seen numerous creams, balsams, lotions, etc., prepared from it by various pharmaceutists, many of which exhibit skill and taste.

The lozenge or pastill has become so common a form in which to exhibit medicinal substances, powders, extracts, juices, essential oils, etc., that I shall notice herein only the following: the efficiency of santonin as an anthelmintic has given rise to its extensive employment in the form of a bonbon or lozenge, delicately flavored, and rose colored; it forms in this shape by far the best and most eligible "worm lozenge" extant.

The preparations termed "Lactinates" find some favor among medical men; they are simply saturated tinctures of any medical plant, inspissated upon cane sugar, or sugar of milk. The applicability of this process depends upon the active principle of the plant not being decomposed by the necessary heat employed in preparing them. I have prepared lactinates of sanguinaria, ipecacuanha, hyoscyamus, digitalis, which possessed perfectly the characteristic odors and properties of those medicines.

Homœopathic globules are made of flour and cane sugar, not of milk sugar, and why can we not learn from the infinitesimal dose-givers something? These pellets (the largest of those they use weighs $\frac{1}{4}$ of a grain) could be made of any size, and when medicated by means of concentrated alcoholic solutions of the more powerful alkaloids, would prove a very agreeable method of administering them.

The usual methods of rendering pills less repulsive by means of coating them with gelatin, gold or silver foil, dried mucilage of linseed, seems to be far superseded by the new and elegant method introduced by French pharmaceutists, by which they are covered with gluten and sugar. *Odor* and taste are destroyed by converting them into bonbons. By this new method the odor of

assafetida is entirely covered, and the most bitter dose rendered palatable. Extracts, all of the officinal pills and others, several decomposable salts, many of the alkaloids, cubebs, copaiba, astringents, etc. etc., are prepared in this form. Those I have seen are from the house of Garner, Lamoreaux & Co., Paris, and are striking evidences of the superior skill of the French pharmaciens.

The preparation of an unalterable pill of iodide of iron after the formula of Blanchard, pharmacien of Paris, has attracted considerable attention. I have prepared these pills for nearly two years, and they have become very popular among my medical friends. I now substitute an ethereal solution of mastic for one of tolu, with advantage in coating the pills as it dries quicker; the varnished pills are not apt to adhere, and the medicinal effect of the mastic aids that of the iron.

A pill or bonbon of oxidized balsam copaiva, under the title of "Copahine Mege," has found much favor lately with physicians. They have the appearance and taste of sugar plums, and consist of copaiba (which has been heated in contact with nitric acid) covered with sugar, colored and flavored. They agree well with the stomach, and seem to produce the curative effects of the copaiba quicker than when it is given by the ordinary methods.

Lycopodium, which costs but a very little more than the best powdered liquorice root, is to my mind much more elegant to use for keeping pills from adhering to each other, than any other powder. Powdered althea root is also used for this purpose.

French pharmaciens who exhibit the greatest skill and improvements in that department of pharmacy of which this paper treats, have brought the process of capsulation almost to perfection, as exampled by the manufactures of Raquin, Clertan and Mathey Caylus, in which copaiba alone, or its various compounds with cubebs, with astringents, etc., the turpentines, ether, essential oils, and numerous other substances, are enveloped in a thin, tasteless and inodorous covering of the gluten of rye flour, of a size favorable to easy deglutition, and yet containing a sufficient dose of each. The filling of them is so perfect that they contain no air bubbles, and the empty capsules weigh only from $1\frac{1}{2}$ to $2\frac{1}{2}$ grains, whereas the gelatin capsule weighs nearer 10 grains.

The empty capsule, another French idea, although now made largely in this country, consists of two short, thin cylinders of gelatin, closed at one end, and sliding one over the other at their open ends. These are made of several sizes, and all that is required in order to use them is to fill the smaller cylinder with the medicine, whether solid or liquid, place the other over it, and having allowed it to soften in the saliva, it is as easily swallowed as a morsel of bread.

The tasteless French wafer is another method of taking powders; they are made white and tasteless, diameter about $3\frac{1}{2}$ inches, and are used by moistening the edges of the wafer with saliva, placing the powder in the center; and folding the edges over the center thus enveloped, the medicine is taken without being tasted.

Numberless methods are proposed for covering the taste of cod liver oil, none of which are so simple and free from objections as that of chewing some bitter substance, as orange peel, previous to taking the dose. Emulsions of cod liver oil are elegantly prepared by means of carbonate of potassa, orange flower water and syrup. Many physicians prescribe cod liver oil in brandy, which tends to cover its taste and aids its medicinal action.

Castor oil is not improved in medicinal action by most of the methods used to disguise it, and the method of giving it floating between spirit and water is doubtless the best, which is as follows: in a proper cup place an ounce or two of mint water, milk or cold infusion of coffee, and having thoroughly wet the sides of the cup with it, pour the dose of oil carefully into the center of it, pour upon this a little brandy or any agreeable alcoholic tincture; the oil thus prepared can be swallowed without its touching the mouth at all, being completely enveloped by its aqueous and alcoholic vehicle. The essential oil of spearmint possesses the power of covering the taste of copaiba, in emulsions of that substance, in a remarkable degree.

Since fluid extracts were made officinal by the last revision of the United States Pharmacopœia, the number of plants which have been found eligible when used in that form has greatly increased. Messrs. Tilden & Co. now prepare over one hundred varieties of fluid extracts; they have the advantage of being con-

centrated fluid representations of plants with but little alcohol; and in very many of those now preserved by means of alcohol, sugar might with advantage be substituted for that purpose.

Among the non-officinal fluid extracts, those of arnica, blackberry, cranesbill, ginger, buchu, dandelion, dandelion and senna, hyoscyamus, and sarsaparilla compound, I consider especially eligible, and there is no doubt but that there are many other plants which experience will prove to be most valuable in the form of fluid extract.

I have had occasion to prepare, during the past year, several *saturated* tinctures, as some physicians think them less variable, and require much smaller doses. In preparing them I have used a considerable excess of the dried material over and above the amount calculated that the menstruum can exhaust. This method is wasteful, and is only applicable to local prescribing, and when the effects of such preparation can be closely watched.

I have prepared as above, saturated tinctures of bloodroot, belladonna, henbane, lobelia, digitalis, conium, etc.

The compound tincture of cardamom is one of the most elegant of adjuvants to mixtures of tinctures, etc., known.

Most pharmaceutists color their essences or alcoholic solutions of the essential oils of peppermint, spearmint, pennyroyal, and the like, by means of curcuma. Now by placing a small portion of the dried plant, from which the essential oil is obtained, into the solution of oil previous to filtration, a color is obtained which is much more natural. A few red rose leaves impart to essence of winter-green a more delicate color than saunders or cochineal.

The infusion of rose leaves forms a judicious addition to many extemporaneous mixtures, owing to its power of disguising taste, and to its beautiful color.

The modern idea of preparing extemporaneously, and taking infusion of quassia, by drinking water from goblets made of quassia wood, has already become obsolete.

In the preparation of cinnamon water, the essential oil of the true or Ceylon cinnamon should always be used, as it produces a medicated water of delightful flavor and agreeable odor.

Of late years the ligneous portion of slippery elm bark, which is separated when this bark is ground from the mucilaginous

portion by bolting, has been used much for cataplasms in place of linseed meal, bread, etc.; it is cleanly and sweet. There is an article call spongio piline, imported from England, made of a mixture of wool and sponge attached to a thin, but strong sheet of rubber. It is used by simply wetting a piece, cut to the size wanted, with water (warm or cold); the impervious rubber keeps the moisture from evaporating. Infusion of tobacco, belladonna, or any anodyne or narcotic, can by means of this substance be eligibly applied externally.

Ointments when prepared extemporaneously upon prescriptions, should have used in them as a vehicle for the action of remedies, only the sweetest of lard or suet, or else use perfumes to cover any disagreeable odor it may possess. A cerate of wax and oil, the unguentum aqua rosæ and glycerin cerate, are eligible vehicles for powerful substances exhibited in ointment. These should be prepared of various degrees of hardness, so as to correspond with the prepared lard, spermaceti and simple cerate of the United States Pharmacopœia.

Cantharidin tissue, blistering taffeta, cantharidal collodion, solution of canthardin in oil, solution of cantharidin and pure gutta percha in chloroform—all these form new and popular substitutes for the ordinary blistering cerate.

I have been in the habit of preparing for some medical friends an embrocation which is used for piles in place of the nutgall ointment of the Pharmacopœia, prepared by dissolving one half drachm of hyd. alc. extract of tobacco and one half drachm of tannin in two fluid ounces of glycerin.

Hat Case—a sort of oil cloth—forms a useful article in spreading plasters; it is very flexible, accommodating itself to any inequalities of surface, and does not allow the material spread upon it to penetrate its substance so as to show upon the reverse side.

It seems singular that Vallet's mass of proto-carb. iron should not be more generally employed in place of many other more expensive and less eligible forms in which iron is exhibited; its pleasant taste, ready acceptability to the stomach, and efficiency even in small doses, its easy preparation, all render it valuable to the physician and profitable to the pharmaceutist, and yet

there are but comparatively few pharmaceutists who prepare it at all.

Lactate of iron is, perhaps, best exhibited in the lozenge form. I have noticed an elegant pastill of lactate of iron of French make, which are sold by importers.

The oil or butter of the cocoa nut is an elegant vehicle for the preparation of ointments, on account of its snow white color and agreable odor. It is less liable to become rancid.

The butter of cacao, or the chocolate nut, is used sometimes for enveloping pills; also for making suppositories.

Although there seems to be much difference of opinion among English pharmaceutists concerning the value of *concentrated* infusions, as compared with those prepared by the officinal methods, there is one thing certain, that from the ease with which the concentrated ones are kept, in spite of their not becoming officinal, they will be thus prepared and kept by most pharmaceutists.

Of all saline aperients and cathartics the solution of citrate of magnesia seems to have reached the popularity due to it as the most agreeable ever invented. Its use is yet somewhat confined to the larger towns and cities. Though from the improvements made in its preparation, so that it is permanent, it can be kept any length of time and easily transported to any part of the country.

A dry and soluble citrate of magnesia prepared after the method of Robiquet and mixed with flavored sugar, bi-carb. soda and citric acid, forms a portable and exceedingly pleasant aperient salt for travellers to carry.

The French put the soluble citrate of magnesia up into pastills, each of which contains one gramme of the salt.

The fluid magnesia of Sir James Murray is easily prepared by any pharmaceutist possessed of an apparatus for making mineral water. This bi-carbonate is an eligible ant-acid, much used by the English; it is aperient in large doses, its cathartic effect being enhanced by drinking it with a portion of syrup of citric acid, by which a portion of the bi-carbonate is converted into citrate of magnesia with the escape of abundance of carbonic acid gas; it is drank while effervescing. The fluid magnesia is recommended as a vehicle for bitter infusions, covering their

taste, etc. It forms an elegant ant-acid and stomachic cordial for infants—used to prevent their food from turning sour upon their stomachs, and as a gentle carminative in place of solutions of opium—when prepared by adding to it a small proportion of the essential oil of anise, caraway and fennel dissolved in alcohol, water and sugar.

The French administer sulphur internally in the form of a pastill, each of which contains 10 grains of sublimed sulphur.

As phosphorus readily dissolves in glycerin, this solvent is recommended as a fit substance in which to exhibit it.

The principle objection to the valerianates—their odor—may be overcome by using with them almost any highly flavored essential oil. Oil of gaultheria succeeds well among others.

Numerous other ideas suggest themselves to me illustrative of the subject matter of this article, but the amount written warns me to close; and, in conclusion, I would remark, that every pharmaceutist possesses within himself the ability to add a mite or more to the general knowledge of our profession, and that it is his duty to impart that knowledge for the benefit of the whole; and while it seems evident that but a small portion of the inherent skill and taste of the *American* is exhibited in perfecting the agreeability of our pharmaceutical preparations, yet, as progress in this department of our art is daily being made, we may reasonably hope, at no distant day, to successfully rival the productions of other arts and professions in beauty and attractiveness.

VOLUNTEER PAPERS.

ETHICAL ANALYSIS.

By Edward Parrish.

It is by the analysis of material things that we are enabled to classify them according to their composition and uses, and it is only by the proper application of ethical analysis to individuals and to institutions, that their true position in the moral scale can be determined.

Applied to society at large or to its proximate constituents—its industrial, political, reformatory or religious institutions—ethical analysis is the most complex and difficult of studies, and is only within the reach of the experienced and profound, and yet its applications to the individual, and especially to the single incidents of his life, are within the capacity of all who are disposed to use them.

Nothing is more common than criticisms on the public and private course of individuals; this, indeed, constitutes the staple of conversation in what is called society, though the glare of prejudice and the jaundiced eye of envy obscuring the clear light of reason and conscience too often render this ordeal most unjust and injurious. All are ready to pass opinions upon *others*, but how few seek by a close ethical analysis applied to *themselves*, to discover their own secret springs of action, and the bearing of their daily pursuits upon the welfare of those around them and of society of large.

Ethical analysis, like physical analysis, is a close and accurate study, and is especially occupied with details. No vague and uncertain estimates will satisfy its demands; it dissects with unsparing scrutiny the daily and hourly incidents of life, and tearing away the crust of self-complacency, exposes the naked elements of character in their actual proportions to each other.

As atoms constitute the aggregate in physical existence, so do daily thoughts and deeds make up the sum of life and character; and as the forces inherent in material atoms group them into distinctive compounds, having each its peculiar properties and uses, so do a man's motives and aims in life constitute him what he is with all his capacities for good or evil.

A knowledge of the atomic constitution of a body derived from its analysis opens to us its chemical nature, its uses and the modifications of which its elements are capable; so a man's knowledge of his daily motives and springs of action, derived from a careful ethical analysis, gives him that sense of his own capacities and power of directing them which must be the foundation of every well developed character.

Viewed in this light the practice of ethical analysis becomes an important individual duty, involving first the substantial interests of the individual, and, as a necessary result, the proportionate elevation of the profession to which he belongs and of society at large.

It becomes a duty as much above the mere dissection of a plant or a mineral as is mind above matter, a duty which presses itself upon those who have no time or means to devote to scientific research, equally with the chemist and the man of science; for, unlike chemical investigations, it consumes no time which could otherwise be devoted to labor, and calls for no outlay in the purchase of expensive apparatus or materials.

The tests to be applied are within the reach of all; and when the moral nature is kept alive to their influence they are even quicker in their operation than any of the dynamic or chemical forces, and their application, unlike that of chemical reagents, is so obvious and plain, that "the way-faring man though a fool cannot err therein."

Without intending to go into detail in relation to the tests and reagents employed in ethical analysis, we may hint at one or two of the most familiar, before referring to some of the practices of druggists and apothecaries, especially inviting their application.

There is one remarkably comprehensive test given in the great text book of our system of morals which is known to all as the golden rule.

The analyst who would apply this test to many of the common practices of the trade, would perhaps be obliged to condemn as spurious much that passes current in respectable business circles, and would get no more thanks for his pains than a chemist who should rummage our shelves and expose all the adulterations and sophistications that are so willingly concealed. Yet this rule applies so admirably to each individual case of self-examination as to be ever one of the most reliable within our reach.

An efficient instrument, a sort of moral hydrometer, capable of penetrating deeply into an action, and indicating with considerable precision its moral strength, or specific gravity, as it were, is one of the very best appliances for ethical analysis. A well educated and sensitive conscience is such an apparatus, but unfortunately this most important instrument is, by a false or careless adjustment and graduation, too often rather a measure of the external pressure, the influence of fashion, or of a misguided public sentiment, than a true measure of moral rectitude and high principle.

One of the most useful methods of physical analysis is that which indicates the nature of a substance by studying its effects upon other substances, called reagents, and the modifications to which it is subject by contact with these. This method applied to ethical inquiries, though difficult, is one of the most instructive. Actions in themselves right are never incompatible with each other; they have always a favorable effect upon the integrity of the individual; they improve and elevate his instincts and affections, and put him in harmony with the good and the true, and thus strengthen him for an upward and onward course through life. On the other hand, wrong-doing is at war with the best interests and highest enjoyments of life, and is degrading and weakening in its effect upon character.

These facts, so obvious in regard to clear instances of virtue and vice, are too little applied to those complex and remote effects of human actions which grow into established abuses and sometimes into legalized crimes.

The profession of pharmacy, in common with all others, abounds with illustrations of this remark.

As far as it lays claim to rank among liberal professions, it must possess higher principles of action than pertain to most of

the mercantile and industrial pursuits. Although like all industrial occupations it has for its active principle the potent element of acquisitiveness, yet this must be materially modified in its characteristics by benevolence and conscientiousness, by the love of knowledge for its elevating and humanitarian uses, by an honest desire for reputation and for fame—motives which it is well to keep before men in all departments of labor, but which especially belong to the professions connected with the cure of disease and with the preservation of the public health.

How far we are individually or in a collective capacity sustaining the position thus claimed, is a legitimate subject for ethical analysis; and without assuming any censorship over my fellows, I propose to the tyro a few questions bearing on this general enquiry.

1st. Has a druggist or apothecary, who makes profession of being a practical pharmaceutist, and offers his services to the public as such, a moral right to neglect the opportunities of scientific and practical improvement within his reach?

2d. Has a pharmaceutist who has discovered an improvement in pharmacy, calculated to affect the health and consequent welfare of the community and the advancement of the science or art of pharmacy, a moral right to keep it a secret for his own private advantage?

3d. Has a pharmaceutist who receives a lad into his shop as an *eléve* or apprentice, a right to neglect his thorough education in the practice of the art, and as far as in his power in the sciences pertaining to it?

4th. Is it morally right for a pharmaceutist who has the confidence of the poor and ignorant of his neighborhood, to take indiscriminately their hard earnings in exchange for the costly and often worse than useless medicines, which, through the public press are plausibly and insidiously recommended to them? Does not such an one participate in the moral obloquy which among enlightened and conscientious people attaches to the charlatan and quack?

5th. How far is it the duty of the pharmaceutist, in the sale of stimulant and narcotic agents, to interfere for the prevention of their intemperate use?

6th. What are the true ethical limitations to the rule of trade,

"to buy cheap and sell dear;" and how far are pharmaceutists justifiable in following this maxim in the purchase and sale of the peculiar and highly important articles of their commerce?

7th. To what extent is competition allowable in conducting the drug business, and what are the duties of pharmaceutists to each other and to the public in regulating and modifying the retail prices of medicines?

THE PRODUCTION OF LEECHES IN MICHIGAN.

By Frederick Stearns.

The great cost of imported leeches, and their liability to accident and disease, have proved a serious drawback to their general use in this country, more especially in interior towns and cities, where the delay incident to transportation is another objection to the purchase and sale of them by the pharmaceutist.

I believe that large dealers in leeches in the country confine themselves solely to the importation of those of foreign collection, and that our indigenous varieties, some of them valuable, are entirely neglected.

I desire to call the attention of the Association to the fact, one proved by an experience of twenty years that by means and appliances so simple as to commend them to pharmaceutists in every part of our Union, we may insure to ourselves an abundant and cheap supply of these invaluable animals.

The foreign varieties of leeches can be easily naturalized, and the supplies of those *indigenous varieties* found valuable, can be indefinitely increased.

The idea of growing leeches in the State of Michigan was first carried out by a member of the medical profession, who moved there from New York city some twenty years ago, while that portion of his adopted State was yet a wilderness. Feeling the want of leeches which he had freely used in his eastern practice, he was led to experiment with those found in the neighboring marshes, with indifferent results. He finally procured in New York a lot of Spanish leeches, and, building a tank for them,

had the satisfaction of seeing them thrive admirably, and to this time has produced them in larger quantities, sufficient to supply the practitioners of his portion of the State. The "Hirudo decora," a leech found abundantly in some parts of Pennsylvania, was in this way introduced, and is now largely used in some counties of the State.

The "aquaria" required consists of a wooden tank eight feet long, six feet wide and four feet deep; this is set into the ground near a running stream of water, a portion of which is conducted into and through the tank, its entrance and exit being made through wire cloth to prevent the escape of leeches. The bottom of the tank, to the depth of eighteen inches, is covered with cobble stones, in order to afford a refuge for the leeches. The water exit is placed about ten inches below the top edge of the tank, which edge has a rim of boards projecting inwards, all the way around nailed to it. This is all the apparatus required, and they need but very little attention. A few frogs thrown in once a week will supply five thousand of them with food sufficient. In winter they become torpid, and the tank is allowed to freeze over and so remain till spring.

They produce their eggs during the months of June and July, and the leech is matured in about two years. Their age when subject to ordinary care is about fifteen years.

When applied they bite readily, and draw about two drachms of blood, the flow of which, however, is to be excited in the usual ways.

Those parts to which leeches are to be applied should be well cleansed from smell or perspiration, and they are best used by putting the requisite number into a suitable sized cupping glass partly filled with water, and applying the edges of the cup closely to the part to be leeched; after they have taken hold the cup may then be gently removed.

The naturalized leech is hardy, rather small, (from one to two and a half inches long,) and very active; those produced from the variety brought from Pennsylvania (a specimen of which is herewith submitted) are of a velvety olive green color upon the dorsal surface, with three longitudinal rows of spots; the centre one orange colored, the others black; the belly is of a rusty orange spotted with black.

The grey leech of Michigan, the best of those indigenous to the State, is of a uniform grey color, extremely thin or flat, peculiar in its motions, is with difficulty induced to draw, though its bite is unaccompanied with any pain; the eggs of the leech, instead of being left to take care of themselves, as in the case of the other leeches, are attached to the belly, as are the young leeches for some time after their development.

The low price at which these leeches can be produced renders their aid available to the poorest; and while by cheapening them, they are, by increased demand, rendered a greater source of pecuniary profit, they will cost the producer nothing but a little time and patience.

A NEW METHOD OF PREPARING SOLUTION OF CITRATE OF MAGNESIA.

By Frederick Stearns.

In this method a freshly prepared solution of bi-carbonate magnesia, of known strength is employed, which is converted into the citrate by the addition of the requisite amount of citric acid, and at the moment of corking that the large amount of carbonic acid gas then liberated may be preserved. It is as follows:—Precipitate magnesia from a hot solution of sulphate of magnesia by adding to it a hot solution of carbonate of soda; it requires 10¼ pounds (troy) of sulphate of magnesia to 12 pounds (troy) of carb. soda.

Wash the precipitated magnesia, well upon a linen filter, drain, and having ascertained the amount of water contained in a sample of known weight, by drying and calcining, introduce the moist hydrate into a suitable apparatus; and to every 1,280 grains of anhydrous magnesia the moist hydrate contains, add one gallon of clean soft water, (allowing, of course, for the water already mechanically combined with the hydrate,) then subject the whole to the action of carbonic acid gas under a pressure of ten atmospheres for twenty-four hours, or until the magnesia is dissolved. Having drawn it off, filter and prepare the solution of the citrate as follows:—Introduce into twelve ounce strong

bottles ten and one half fluid ounces of the solution and one and a half ounces of lemon syrup, not acidulated; and having the corks ready and softened, introduce into each three hundred and sixty-six grains of citric acid in crystals; cork and wire immediately.

The large excess of carbonic acid which this solution contains renders its use more agreeable than when prepared after the officinal or usual methods. I have not found it to deposit the insoluble citrate.

ON THE USE OF OUR INDIGENOUS PLANTS.

By Jno. M. Maisch.

The materia medica of our Pharmacopœia embraces a number of indigenous plants, particularly in the secondary list, most of which are habitually employed as domestic medicines in various parts of the United States, and but rarely used by the practitioner. Very naturally the questions suggest themselves: Why are these plants not more employed by medical men? Are they inert? and if so, why are they retained in our medical catalogue?

Reliable information in regard to the medicinal value of these indigenous plants, so far as they have been the subject of study and experiments of physicians, may be obtained by a perusal of that valuable work, the U. S. Dispensatory, by Drs. Wood and Bache; and it would appear from the statements made there, that we have an abundance of medicinal herbs indigenous to our soil, and that all that was required to bring them into credit with the profession was a fair trial. The claims of some have undergone a thorough investigation, and their merits attained a high reputation; as, for instance, wild cherry bark, senega, spigelia, serpentaria, &c. Others are comparatively untried and unused. Of calamus it is said that "the medicine is at present much neglected, though well calculated to answer as a substitute for more costly aromatics." In relation to the well known merits of Erigeron Philadelphicum, it is stated, "when the obstinate character and long continuance of certain dropsical affections is

considered, (and this may also be appropriately applied to various other diseases,) the advantage must appear obvious, of having numerous remedies calculated to mitigate the symptoms without exhausting the strength of the patient, so that when one has lost its powers from repetition, we may appeal to another with some prospect of benefit." In other instances, however, we meet with the assertion, as in the case of Asclepias incarnata, that "its properties have not been fully tested."

Many of these plants, especially those of the secondary list of our Pharmacopœia, have not been subjected to chemical analysis, or, to the utmost, were not sufficiently investigated to judge from their constituents of the probable medicinal value. A large majority are merely mentioned in our catalogue, without offering to the physician a preparation that he might use instead of the crude plant. Some manufacturers have endeavored to supply that want by preparing for the physician's use, extracts, fluid extracts, syrups and tinctures of such plants; but the fact of the mode of their preparing them being kept secret, does not appear to win the favor of the medical profession generally, notwithstanding the assertion of their containing the virtues of the plants from which they are made. The physician, it is true, might have resorted to those time-honored processes of decoction and infusion, but we must consider how unsightly often the appearance of such preparations is, how disagreeable their taste, but most of all how objectionable the process of decoction, and how tedious that of infusion in many instances. In the former case, the menstruum is to be boiled down, sometimes to less than one half the original measure, thereby driving off volatile principles, and from well acknowledged experience in a number of cases leading us to suspect that the active constituents might be injured or entirely spoiled by a continued application of so high a temperature; we need refer only to saraparilla, senega, taraxacum, &c., to strengthen our suspicion, *à priori*, against the process of decoction, as a mode of extracting the virtues of vegetable products, unless actual experiments have proved to the contrary. In view of that fact, all the different Pharmacopœias that have lately been revised have abandoned the mode of preparing the extracts by exhausting the crude drugs at the boiling point, preferring to extract their virtues at a lower temperature and to

evaporate at a more moderate heat, if possible even with the exclusion of the atmospheric air. This is an advancement of pharmacy with the discoveries in chemistry.

The process of infusion is often objected to on account of the time necessary for properly completing the operation; from one to twelve, sometimes even twenty-four hours being required. Infusions, therefore, are comparatively seldom employed when the medicine is intended to be used for any considerable time. Besides that, by the process of decoction and infusion, so much gum and inert matter is usually dissolved as to render them often objectionable on that ground, and impart to them a tendency to ferment with facility during the warm weather of our summers. Water itself does not act as a preservative; on the contrary, the influence of water is requisite for organic matter to undergo those changes to which we respectively apply the terms of fermentation, moulding and putrefaction. By evaporating the infusions or decoctions to dryness, we may reasonably expect to obtain the useful principles in a concentrated state, so far as they have not been dissipated or altered by heat, and formed that mysterious body, extractive matter, with which we constantly meet on analyzing any of the vegetable products; or at the desire of the physician, we might prepare an extract in a more scientific manner. However, in a majority of cases, the physician will, from some cause or other, forego the trial of a preparation that he does not find ready for use when wanted, and, finally, probably abandon the idea altogether to employ the plant, the virtues of which he intended to study.

It then becomes the province of the pharmaceutist to endeavor to offer such crude material to the physician in a form convenient for use, representing the medicinal virtues, and capable of being kept for some length of time without any material change. Such a preparation would be the more valuable, if it was either itself in the liquid state, or would at least allow to exhibit it readily in the form of mixture. Our Pharmacopœia recognizes such a class of pharmaceutical preparations; the fluid extracts, and the constant use of many of them show, the favor in which they are held by the medical practitioner, and the popularity of some as domestic medicines; and from precedent instances we have every reason to expect many a valuable addi-

tion to the medical codex of our country from its invaluable botanical treasure, but partly explored by botanists, and, let us confess it, very insufficiently tried and experimented with by physicians and pharmaceutists. Some of our indigenous herbs, however, have been the subject of much study, and as far as their pharmaceutical relations go, we are indebted to nobody in a higher degree than to our esteemed fellow-member, Professor Wm. Procter, jr. I need hardly recall to your memory that to his researches, in connection with Mr. Turnpenny, we owe our present Syrupus Pruni Virginianæ, which he has, I might say, superseded with his fluid extract of Wild Cherry bark, a most elegant and scientific pharmaceutical preparation, which we may expect will grace the pages of our next Pharmacopœia. We owe to his untiring exertions formulæ for fluid extracts of taraxacum, lobelia, cimicifuga, lupulin; and for syrups, of chimaphila, uva ursi, dulcamara, &c. Besides these, but few preparations of indigenous plants have been made. Mr. E. Parrish has prepared a fluid extract of Hydrangea arborescens, and syrups of Cistus canadensis and Gillenia trifoliata, the latter intended as a substitute for syrup of ipecacuanha. Messrs. Savery and A. B. Taylor have given us directions for fluid extract of serpentaria, and Dr. B. O. Jones, of Georgia, has lately proposed a compound fluid extract of Thephrosia virginiana and Rumex acutus.

Excepting the above, the Eclectic Dispensatory furnishes formulæ for some 10 or 12 fluid extracts of indigenous plants, a peculiar feature of which, is the direction for exhausting with alcohol and then with boiling water; or, as had been suggested by Mr. Merrell, by driving the steam of alcohol and of water through the powdered plant in a displacing apparatus. The idea, I suppose, is to present all soluble matter in a liquid state, a principle upon which a druggist of this city seeks to improve the officinal compound syrup of sarsaparilla. After having the materials exhausted by diluted alcohol, he treats them first with cold water and afterwards with boiling water, thinking this procedure the only rational one; but unfortunately, not minding the large amount of inert matter which must impair the quality and stability of such a syrup, and the changeable nature of the active principle of sarsaparilla, which is so readily altered by a continued application of heat.

In making a preparation, all we wish is to present the *medicinal virtue* of the crude article, but by no means to extract all that can be dissolved by the different menstrua. We do not, *à priori*, expect to find the active principles of a plant in the precipitate produced by water in its alcoholic tincture, and we regard with almost suspicion what we obtain by a treatment with boiling water. While on the one hand, we know that water, especially at the boiling temperature, is a solvent for starch, gum, mucilage, glutinous and other more or less inert vegetable matter, we also bear in mind, that, on the other hand, resinous substances, chlorophyl, fixed oils, &c., are dissolved by alcohol; still we do not conclude that the really valuable, the active constituents of *all* plants should be soluble in both alcohol and water, as Dr. Mohr has shown to be the case with a number of the strictly narcotic plants. First of all, we inquire into the best solvents for the active matter they contain, and with their aid obtain our extracts and other preparations, taking care at the same time to separate again as much as possible such inert matter as has been extracted along with that of medicinal value. To adhere strictly to such a rule usually becomes still more imperative when we intend to keep the preparation in a liquid state. Such a spirit of improvement is exhibited in the formulæ for a number of syrups, in the last edition of our Pharmacopœia, and it would ill become us to take a step back towards the old error with those preparations to which we apply the generic name of fluid extracts; which, if prepared with due regard to their medicinal and chemical properties, and to nicety in appearance and taste, may be destined to take the place of infusions and decoctions of many tinctures and syrups, and thus become a most important class of remedies.

I was guided by such reflections when application was made to me for preparations containing the medicinal virtues of scullcap, horehound and uva ursi in a concentrated state. Of the latter, report was made in the American Journal of Pharmacy for July; of the former two, made in accordance with the wish of two country physicians, I have not obtained any information regarding their application; they were made in the following way:

Scutellaria laterifolia is considered inert by the authors of

the Dispensatory; but from the effects obtained by Dr. Joseph Bates with Tilden's fluid extract of this herb (Boston Med. and Surg. Journ., Amer. Journ. Pharm. 1856, p. 87,) it would appear to possess really valuable virtues. The way Messrs. Tilden make their pharmaceutical preparations I believe is kept secret, and not finding any analysis of the herb, I was at first at a loss how to prepare the extract most efficiently. Scullcap is freely given in the form of infusion and yields, it would seem, its virtues to water. On experiment, the quantity taken up was but small, and part of it of the nature of gum. Alcohol dissolved chlorophyl and probably other resinous matter; but to the taste, little medicinal virtue was made apparent by either operation. I therefore came to the conclusion to operate in such a manner as to leave the chlorophyl and gummy matter behind.

Horehound is tonic, with a tendency to augment the secretions of the mucuous membranes; but "it exerts no specific influence over any disease, and has now almost entirely passed from the hands of physicians into domestic use." (*Dispensatory.*) Besides a minute quantity of volatile oil, the activity of horehound is due chiefly to a bitter extractive and tannic acid, both soluble in water and diluted alcohol, which would leave chlorophyl behind. The fluid extracts of scullcap and horehound I therefore prepared in like manner, by macerating sixteen ounces (troy) of the powdered herb with a pint of diluted alcohol for twenty-four hours, and then displacing with a mixture of four parts of water to one of alcohol until the herb was exhausted. The different menstrua mix well without precipitating one another; they are evaporated by means of a water bath to about a pint, and after dissolving one pound (troy) of white sugar, the whole is evaporated to sixteen fluid ounces, strained and bottled. Each fluid ounce contains the virtues of an ounce of the herb; the fluid extract of scullcap has as much taste as the plant; that of horehound possesses the bitter and astringent properties in a marked degree, and might, perhaps, be found useful in aiding by its gently tonic powers other medicines of more apparent efficacy.

The bark of the dogwood has been used, and in domestic practice is still employed as an astringent tonic similar in its virtues to Peruvian bark; no preparation has been offered to the physician. Its active constituents are tannic and gallic acids

and bitter extractive. The existence of *cornine*, the bitter alkaloid principle of Mr. Carpenter, is denied by Geiger, who nevertheless isolated a crystalline substance of acid properties, to which he gave the name of *cornic acid*, and who found the tannin of that variety which turns a blue color with the salts of iron. (Ann. d. Pharm. xiv. 206.) Besides these it contains starch, gum, oxalate of lime and other salts. I have prepared a fluid extract by exhausting sixteen ounces of the powdered bark with diluted alcohol, evaporating to about a pint, dissolving twelve ounces (troy) of white sugar, and completing the process by evaporating to sixteen fluid ounces and straining. The resulting fluid extract possesses the astringency and bitterness of dogwood bark, and as a teaspoonful of it represents one drachm of the bark, the dose would not be inconveniently large; the bitterness is not unpleasant, and could be made more agreeable by the addition of some of the exterior skin of fresh orange peel.

Solanum dulcamara is one of those plants that are in great favor with some physicians, without being able to win the good opinion of the whole medical profession; even our officinal extractum dulcamaræ is but little used. The herb belongs to the natural order of Solanaceæ, which comprises some of our most active and narcotic plants: atropa, belladonna, hyoscyamus, nicotiana, strammonium and capsicum belonging to it. Dulcamara and other species of the genus Solanum, contain an active narcotic principle, solanine, discovered by Desfosses, on which the activity partly depends; but Pfaff already obtained a substance having that peculiar bitter-sweet taste, and soluble in water, acetic ether and alcohol; he named it Pikroglycion. It was afterwards prepared free from solanine, in a crystalline state, by Blitz, and Desfosses' dulcarine is most probably identical with it. Solanine is not soluble in cold water, but sparingly so in boiling water; in alcohol, however, and when combined with an acid also in water, it dissolves quite readily. I have contrived to prepare a fluid extract of dulcamara which, in accordance with the above statements, should contain all the active matter. Sixteen ounces troy of bittersweet stalks were macerated with a mixture of two parts of alcohol and one of water, and afterwards exhausted in a percolator, the resulting tincture was

evaporated by means of a water-bath, to about one half, then mixed with two drachms of acetic acid, the evaporation continued until all the alcohol had been driven off, when eight ounces of sugar were dissolved in it and the evaporation was discontinued, when the liquid measured twelve fluid ounces; it was strained through close flannel to get rid of chlorophyl and a little resin, and while still warm was mixed with four fluid ounces of alcohol, sufficient to make the whole measure one pint. The stalks are the officinal part of solanum dulcamara, but it has been asserted that the leaves contain a larger amount of solanine than the stalks, and this assertion merits attention to induce a comparative analysis of the two parts of the plant.

Calamus owes its medicinal virtues chiefly to a volatile oil, and also to a bitter extractive, which are both readily taken up by alcohol. The Prussian Pharmacopœia directs a tinctura calami prepared by macerating two ounces of calamus in twelve ounces of rectified spirit of 0.897 spec. grav., or about two and a half ounces to one pint. By carefully extracting the calamus root in a percolator, we are able to charge a pint of liquid with the virtues of four ounces of the root. For this purpose we reduce the calamus to powder, macerate it for twelve hours, with a mixture of two parts of alcohol of 0.835 and one of water, thus bringing it down to the strength of about 58 per cent., and finally displace it slowly with the same spirit until one pint of tinture is obtained. Each fluid drachm of this tincture contains all the tonic and stimulating properties of fifteen grains of the root. If the calamus was sufficiently fine and the operation conducted with the requisite care, the residue will be found almost tasteless.

In the foregoing I have tried to point out the way we shall have to follow if we wish to see our plants fairly tried by the physician. It remains with the pharmaceutist to offer them to him in a state ready for convenient use; if they then do not undergo a scientific trial for the purpose of establishing their therapeutical value, we shall have performed our duty as pharmaceutists. The few formulæ I have given are for preparations of plants which, I am fully aware, do not promise to be the most valuable ones, after our vast botanical resources will have been more fully explored for the benefit of the healing art. In fol-

lowing such a course we shall often find it necessary to subject the herbs to a thorough chemical examination, and we may reasonably expect to arrive also at many interesting facts in chemistry. The time we have to spare from our close confinement to business, will not allow us to execute such a work in a short space of time; but by harmoniously working together in a certain direction that we know will be productive of good, the results will be quite apparent in a few years. We also have to direct our attention to such foreign herbs that either have become entirely naturalized to our soil, or else are or may be advantageously cultivated. Among those naturalized or extensively cultivated plants, we find a considerable number of high importance in medicine. Of those officinal in our own Pharmacopœia, we need only mention Artemisia absinthium, Capsicum annuum, Hyoscyamus niger, Inula helenium, Lavandula vera, Marrubium vulgare, Melissa officinalis, Mentha piperita and viridis, Ricinus communis, Tanacetum vulgare and others. Many of these grow with us so readily and to such an extent, and are so popularly, known as now to fairly belong to us, and doubtless we may still more enrich the botanical opulence of our country; but we can just as little doubt but that what we already possess embraces an immeasurable amount of undeveloped wealth. Let us do our part to develope the same.

APPENDIX.

CONSTITUTION

OF THE

American Pharmaceutical Association.

PREAMBLE.

Whereas, The advancement of pharmaceutical knowledge and the elevation of the professional character of Apothecaries and Druggists throughout the United States are dear to us in common with all well disposed pharmaceutists; and *whereas*, a large portion of those in whose hands the practice of pharmacy now exists, are not properly qualified for the responsible offices it involves, chiefly by reason of the many difficulties that impede the acquirement of a correct knowledge of their business:—

Therefore, We the members of a Convention now met at Philadelphia, [September 1852,] composed of Apothecaries and Druggists from different sections of the Union, and from all the Colleges and Societies therein existing, with the object of deliberating on the condition of our profession, do hereby resolve and constitute ourselves into a permanent Association, to meet annually, at such times and places as may hereafter be determined, for more effectually accomplishing the objects for which we are now assembled, and do now adopt the following

CONSTITUTION.

Article I.

This Association shall be called the American Pharmaceutical Association. Its aim shall be to unite the educated and reputable Pharmaceutists and Druggists of the United States in the following objects:

1st. To improve and regulate the drug market, by preventing the importation of inferior, adulterated or deteriorated drugs, and by detecting and exposing home adulteration.

2nd. To establish the relations between druggists, pharmaceutists, physicians and the people at large, upon just principles, which shall promote the public welfare and tend to mutual strength and advantage.

3rd. To improve the science and the art of pharmacy by diffusing scientific knowledge among apothecaries and druggists, fostering pharmaceutical literature, developing talent, stimulating discovery and invention, and encouraging home production and manufacture in the several departments of the drug business.

4th. To regulate the system of apprenticeship and employment so as to prevent as far as practicable, the evils flowing from deficient training in the responsible duties of preparing, dispensing and selling medicines.

5th. To suppress empyricism, and as much as possible to restrict the dispensing and sale of medicines to regularly educated druggists and apothecaries.

ARTICLE II.—*Of the Members.*

Section 1. Every pharmaceutist or druggist of good moral and professional standing, whether in business on his own account, retired from business or employed by another, who, after duly considering the objects of the Association and the obligations of its Constitution, is willing to subscribe to them, is eligible to membership.

Section 2. The mode of admission to membership shall be as follows: Any person eligible to membership may apply to any member of the Executive Committee, who shall report his application to the said Committee. If after investigating his claims they shall approve his election, they shall at the earliest time practicable report his name to the Association, and he may be elected by two-thirds of the members present on ballot. Should an application occur in the recess, the members of the Committee may give their approval in writing, which, if unanimous, and endorsed by the President, shall constitute him a member, and the fact be reported to the Association at the next succeeding meeting.

Section 3. No person shall become a member of this Association until he shall have signed this Constitution, and paid his annual contribution for the current year. All persons who become members shall be considered as permanent members, but may be expelled for improper conduct by a vote of two-thirds of the members present at any annual meeting.

Section 4. Every member shall pay into the hands of the Treasurer the sum of two dollars as his yearly contribution, and is liable to lose his right of membership by neglecting to pay said contribution for three successive years. Members shall be entitled, on the payment of three dollars, to receive a certificate of membership signed by the President, Vice-Presidents and Secretary, covenanting to return the same to the proper officer on relinquishing their connection with the Association.

Section 5. Every local Pharmaceutical Association shall be entitled to five delegates in the annual meetings, who, if present, become members of the Association, on signing the Constitution, without being balloted for.

Section 6. Pharmaceutists, Chemists, and other scientific men who may

be thought worthy of the distinction, may be elected honorary members upon the same conditions and under the same rules as appertain to active members. They shall not, however, be required to contribute to the funds, nor shall they be eligible to hold office or to vote at the meetings.

Section 7. Members who have paid their annual contribution for ten successive years shall be considered life members, and exempt from their yearly payments and entitled to a certificate to that effect.

Article III.—*Of the Officers.*

Section 1. The officers shall be, a President, two or more Vice-Presidents, a Recording Secretary, a Corresponding Secretary and a Treasurer, who shall be elected annually, and shall hold office until an election of successors.

Section 2. The President shall preside at the meetings and administer the rules of order usual in deliberative assemblies. He shall nominate all special committees, except a majority of the members present direct a resort to balloting or other means.

He shall sign the certificates of membership, approve all foreign correspondence and countersign orders on the Treasurer.

He shall present at each annual meeting a report of the operations of the Association during the year, with such information pertaining to its condition and prospects and the objects it has in view, together with such suggestions for its future management as may seem to him proper.

Section 3. In case of the temporary absence or inability of the President, his duties shall devolve on one of the Vice-Presidents in the order of their names.

Section 4. The Recording Secretary shall keep fair and correct minutes of the proceedings of the meetings, and carefully preserve on file all reports, essays and papers of every description received by the Association, copies or abstracts of which shall be furnished for publication as may be required.

He shall furnish the chairman of every special committee with a list of its members and a copy of the minute of its appointment, and shall notify every member of the time and place of each annual meeting. He shall be a member of the Executive Committee.

Section 5. The Corresponding Secretary shall conduct all correspondence directed by the Association, and reply to all communications addressed to it in its recess. He shall from time to time address local Associations, members and others possessed of information likely to be of interest to the Association, and report such correspondence to the Committee on the Progress of Pharmacy, of which he shall be a member.

Section 6. The Treasurer shall collect and take charge of the funds of the Association, and shall also hold and issue the certificates of membership. He shall pay no monies unless by the order of the chairman of one

of the standing or of a special committee, authorized to appropriate funds of the Association, such order to be countersigned by the President.

He shall present a statement of his accounts at each annual meeting that they may be audited. He shall also report to the Executive Committee, previous to each annual meeting, the names of such members as have failed to pay their annual contribution for three years, and also the names of such as have failed to return their certificates of membership after having been officially disconnected with the Association, and duly notified to do so.

ARTICLE IV.—*Of the Standing Committees.*

Section 1. There shall be two standing committees elected annually—an Executive Committee, and a Committee on the Progress of Pharmacy. They shall each consist of five members, and shall elect their own Chairmen.

Section 2. The Executive Committee, of which the Recording Secretary shall be one of the members, shall have charge of the revision of the roll, the investigation of applications for membership, the election of members in the recess, and the publication of the Proceedings. They shall report at each meeting a revised roll of members, with appropriate notices of deceased members, also the names of any who, having become disconnected with the Association, refuse to return their certificates of membership as provided by this Constitution.

The annual publication of the Proceedings shall contain the corrected roll of members, full minutes of the several sittings, the Reports of the President and of the Committees, together with such addresses, scientific papers, discussions, notices of new processes and preparations as the Executive Committee may deem worthy of insertion. At least one copy shall be furnished each member of the Association.

Section 3. The Committee on the Progress of Pharmacy, of which the Corresponding Secretary shall be one of the members, shall report annually to the Association on the improvements in Chemistry, Practical Pharmacy and the collateral branches, on any new works bearing on these subjects published in this country or in Europe, on the condition of the drug market and the quality of drugs and manufactured articles, whether of foreign or domestic production, found in commerce.

ARTICLE V.—*Of the Meetings.*

Section 1. The meetings shall be held annually, or as the Association may from time to time determine; provided, that in case of failure of this from any cause, the duty of calling the Association together shall devolve upon the President, or one of the Vice-Presidents, with the advice and consent of the Executive Committee.

Section 2. At the opening of each annual meeting, the President, or, in case of his absence, one of the Vice-Presidents, shall call the meeting to

order and preside until after an election of officers ; in case the President and Vice-Presidents are absent, this duty shall devolve on the chairman of the Executive Committee, or in his absence on any member chosen by vote of those present.

In the absence of the Recording Secretary the President shall appoint a Secretary, pro tempore.

The order of business at the first session of each annual meeting shall be as follows :

1st. The appointment by the President of a committee of three persons to examine credentials, and report the names of those duly accredited.

2d. The Executive Committee shall report the names of new members and of persons present recommended for membership, who shall be immediately balloted for.

3d. The roll of those in attendance, as thus completed, shall be called by the Secretary.

4th. The reports of the Standing and Special Committees shall be read by their titles, or in full, and laid on the table for future consideration.

5th. A committee to nominate officers for the ensuing year shall be appointed, consisting of one nominated by each delegation in attendance, and three members appointed by the President, from among those not delegated, to report at the opening of the next session.

The first session shall close with the reading of the President's annual report and referring any portions requiring the action of Committees.

After the first session, the order of business shall be determined by the nature of the subjects presented and by the consent of the majority.

Section 3. During periods fixed by vote for scientific discussion and the exhibition of specimens and processes, the ordinary rules of parliamentary bodies shall be suspended, but at other times shall be enforced by the presiding officer, from whose decisions, however, appeals may be taken if required by five members, and the meeting shall thereupon decide without debate.

A motion reduced to writing and seconded shall be open to discussion, and while it is before the meeting, no motion shall be received unless to amend, divide, commit, to lay on the table, postpone or to adjourn ; and a motion to adjourn shall be decided without debate.

On the call of any member, the yeas and nays shall be ordered, when every member shall vote, unless excused by a majority of those present, and the names and manner of voting shall be entered on the Minutes.

Article VI.

This Constitution may be altered or amended by a vote of three-fourths of the members present at any regular meeting, and notice to alter or amend the same shall be given at least one sitting before a vote thereupon.

ROLL OF MEMBERS.

[Deceased Members in Italics.]

Henry T. Cummings, M.D.,	Portland,	Maine,	1853
George L. Dearborn,	Great Falls,	New Hampshire,	1853
Charles A. Tufts,	Dover,	New Hampshire,	1856
S. P. Peck,	Bennington,	Vermont,	1853
J. C. Bingham,	St. Johnsbury,	Vermont,	1853
Henry F. Fish,	Waterbury,	Connecticut,	1852
Joseph Burnett,	Boston,	Massachusetts,	1852
S. R. Philbrick, M. D.,	Boston,	Massachusetts,	1852
Samuel M. Colcord,	Boston,	Massachusetts,	1852
Daniel Henchman,	Boston,	Massachusetts,	1853
Thomas Restieaux,	Boston,	Massachusetts,	1853
Andrew Geyer,	Boston,	Massachusetts,	1853
Emery Souther,	Boston,	Massachusetts,	1853
T. Larkin Turner,	Boston,	Massachusetts,	1853
Henry W. Lincoln,	Boston,	Massachusetts,	1853
William A. Brewer,	Boston,	Massachusetts,	1853
Thomas Hollis,	Boston,	Massachusetts,	1853
Ashel Boyden,	Boston,	Massachusetts,	1853
Henry D. Fowle,	Boston,	Massachusetts,	1853
James S. Melvin,	Boston,	Massachusetts,	1853
William W. Goodwin,	Boston,	Massachusetts,	1853
Peter J. Hazzard,	Boston,	Massachusetts,	1853
Charles T. Carney,	Boston,	Massachusetts,	1853
Robert R. Kent,	Boston,	Massachusetts,	1855
Abijah Littlefield,	Boston,	Massachusetts,	1856
Augustus P. Melzar,	Boston,	Massachusetts,	1856
Charles H. Atwood,	Boston,	Massachusetts,	1856

James Gordon,	Boston,	Massachusetts,	1857
Theodore Metcalfe,	Boston,	Massachusetts,	1857
Abraham S. Wiley,	Cambridge,	Massachusetts,	1857
Anthony S. Jones,	Newburyport,	Massachusetts,	1853
David Scott,	Worcester,	Massachusetts,	1855
John Buck,	Chelsea,	Massachusetts,	1855
Dexter D. Geyer,	Gloucester,	Massachusetts,	1857
Eben Blatchford,	Rockport,	Massachusetts,	1857
Llewellyn S. Haskell,	New York City,	New York,	1852
George D. Coggeshall,	New York City,	New York,	1852
John Meakim,	New York City,	New York,	1852
Eugene Dupuy,	New York City,	New York,	1852
C. B. Guthrie, M. D.,	New York City,	New York,	1852
Junius Gridley,	New York City,	New York,	1853
James S. Aspinwall,	New York City,	New York,	1855
Benjamin Canavan,	New York City,	New York,	1855
John Canavan,	New York City,	New York,	1855
John Milhau,	New York City,	New York,	1855
John P. Dodge,	New York City,	New York,	1855
F. A. Hegeman,	New York City,	New York,	1855
Oliver Hull,	New York City,	New York,	1855
James T. Maxwell,	New York City,	New York,	1855
Isaac Coddington,	New York City,	New York,	1855
Frederick Hale,	New York City,	New York,	1855
Fred. Thompson,	New York City,	New York,	1856
J. W. Bowers,	New York City,	New York,	1856
J. W. Kiersted,	New York City,	New York,	1856
Wm. F. Henry,	New York City,	New York,	1856
George Syme,	New York City,	New York,	1857
Henry Haviland,	New York City,	New York,	1857
George W. Berrian,	New York City,	New York,	1857
George W. De la Vergne,	New York City,	New York,	1857
John Faber,	New York City,	New York,	1857
Tristram W. Metcalfe,	Brooklyn,	New York,	1857
Alexander Hudnut,	Brooklyn,	New York,	1857

Thomas Whitehorn,	Brooklyn,	New York,	1857
A. I. Mathews,	Buffalo,	New York,	1855
William H. Peabody,	Buffalo,	New York,	1857
H. A. Blauw,	Rochester,	New York,	1856
Alfred S. Lane,	Rochester,	New York,	1857
William Thomas,	Jersey City,	New Jersey,	1855
Peter V. Coppuck,	Mount Holly,	New Jersey,	1857
Charles Ellis,	Philadelphia,	Pennsylvania,	1852
William Procter, Jr.,	Philadelphia,	Pennsylvania,	1852
Alfred B. Taylor,	Philadelphia,	Pennsylvania,	1852
Edward Parrish,	Philadelphia,	Pennsylvania,	1852
Samuel S. Garrigues, Ph.D.,	Philadelphia,	Pennsylvania,	1855
Henry C. Blair,	Philadelphia,	Pennsylvania,	1856
John H. Ecky,	Philadelphia,	Pennsylvania,	1856
Frederick L. John,	Philadelphia,	Pennsylvania,	1856
John M. Maisch,	Philadelphia,	Pennsylvania,	1856
Thomas Weaver,	Philadelphia,	Pennsylvania,	1856
M. Henry Kollock,	Philadelphia,	Pennsylvania,	1856
Dillwyn Parrish,	Philadelphia,	Pennsylvania,	1857
Samuel F. Troth,	Philadelphia,	Pennsylvania,	1857
Ambrose Smith,	Philadelphia,	Pennsylvania,	1857
Thomas P. James,	Philadelphia,	Pennsylvania,	1857
Charles Bullock,	Philadelphia,	Pennsylvania,	1857
Thomas S. Wiegand,	Philadelphia,	Pennsylvania,	1857
Samuel N. James,	Philadelphia,	Pennsylvania,	1857
Evan T. Ellis,	Philadelphia,	Pennsylvania,	1857
Lewis M. Emanuel,	Philadelphia,	Pennsylvania,	1857
Wilson H. Pile,	Philadelphia,	Pennsylvania,	1857
Samuel S. Bunting,	Philadelphia,	Pennsylvania,	1857
T. Morris Perot,	Philadelphia,	Pennsylvania,	1857
Asher S. Leidy,	Philadelphia,	Pennsylvania,	1857
Bradford Ritter,	Philadelphia,	Pennsylvania,	1857
William H. Pratt,	Philadelphia,	Pennsylvania,	1857
Edward Donnelly, M. D.,	Philadelphia,	Pennsylvania,	1857
Henry Steiner,	Philadelphia,	Pennsylvania,	1857

Hennell Stevens,	Philadelphia,	Pennsylvania,	1857
Samuel Chapman, M. D.,	Philadelphia,	Pennsylvania,	1857
Edward H. Hance,	Philadelphia,	Pennsylvania,	1857
Charles H. Eggert,	Philadelphia,	Pennsylvania,	1857
George M. Snowdon,	Philadelphia,	Pennsylvania,	1857
George Cooke,	Philadelphia,	Pennsylvania,	1857
William R. Warner,	Philadelphia,	Pennsylvania,	1857
O. S. Hubbell,	Philadelphia,	Pennsylvania,	1857
Thomas Lancaster,	Philadelphia,	Pennsylvania,	1857
Charles Banvart,	Harrisburg,	Pennsylvania,	1856
William Heyser, Jr.,	Chambersburg,	Pennsylvania,	1856
William Loeffler,	Chambersburg,	Pennsylvania,	1857
Charles A. Heinitsch,	Lancaster,	Pennsylvania,	1857
William M. Guilford, M.D.,	Lebanon,	Pennsylvania,	1857
William L. McCorkle,	Columbia,	Pennsylvania,	1857
Samuel K. Norgrave,	Pittsburg,	Pennsylvania,	1857
Henry N. Rittenhouse,	Wilmington,	Delaware,	1857
David Stewart, M. D.,	Baltimore,	Maryland,	1852
Geo. W. Andrews,	Baltimore,	Maryland,	1856
A. P. Sharp,	Baltimore,	Maryland,	1855
J. C. Rogers,	Baltimore,	Maryland,	1856
James M. Bowers,	Baltimore,	Maryland,	1856
Israel J. Grahame,	Baltimore,	Maryland,	1856
L. Phillips,	Baltimore,	Maryland,	1856
J. Jacob Smith,	Baltimore,	Maryland,	1856
Charles Caspari,	Baltimore,	Maryland,	1856
R. H. Dryden,	Baltimore,	Maryland,	1856
John W. Barry,	Baltimore,	Maryland,	1856
J. H. Lemmon,	Baltimore,	Maryland,	1856
Joseph Roberts,	Baltimore,	Maryland,	1856
E. J. F. Russel,	Baltimore,	Maryland,	1856
J. F. Moore,	Baltimore,	Maryland,	1856
Charles Wiseman,	Baltimore,	Maryland,	1856
George J. Fetter,	Baltimore,	Maryland,	1856
Edward C. Gilpin,	Baltimore,	Maryland,	1856

Oscar Monsarrat,	Baltimore,	Maryland,	1856
G. Davidge Woods,	Baltimore,	Maryland,	1856
J. B. Baxley,	Baltimore,	Maryland,	1856
Samuel McPherson,	Baltimore,	Maryland,	1856
James Balmer,	Baltimore,	Maryland,	1856
Wm. S. Thompson,	Baltimore,	Maryland,	1856
William Caspari,	Baltimore,	Maryland,	1856
T. W. Tomlinson,	Baltimore,	Maryland,	1856
J. J. Thomsen,	Baltimore,	Maryland,	1856
Thomas H. Hilsby,	Baltimore,	Maryland,	1856
N. H. Jennings,	Baltimore,	Maryland,	1857
Elisha H. Perkins,	Baltimore,	Maryland,	1857
Valentine Harbaugh,	Washington,	Dist. of Columbia,	1856
H. H. McPherson,	Washington,	Dist. of Columbia,	1856
W. H. Gilman,	Washington,	Dist. of Columbia,	1856
F. S. Walsh,	Washington,	Dist. of Columbia,	1856
D. S. Dyson,	Washington,	Dist. of Columbia,	1856
Samuel E. Tyson,	Washington,	Dist. of Columbia,	1857
Daniel B. Clarke,	Washington,	Dist. of Columbia,	1857
James N. Callan,	Washington,	Dist. of Columbia,	1857
John L. Kidwell,	Georgetown,	Dist. of Columbia,	1856
R. H. Stabler,	Alexandria,	Virginia,	1856
J. W. Bowling,	Alexandria,	Virginia,	1857
Alexander Duval,	Richmond,	Virginia,	1852
Joseph Laidley,	Richmond,	Virginia,	1852
T. Roberts Baker,	Richmond,	Virginia,	1856
James Cooke, M. D.,	Fredericksburg,	Virginia,	1856
Silas Whitehead,	Lynchburg,	Virginia,	1856
Frederick M. Wells,	Charlotte,	Virginia,	1856
Charles K. Gallagher,	Washington,	North Carolina,	1857
John Thomson,	Sumpter,	South Carolina,	1856
H. J. Macdonald,	Barnwell C. H.,	South Carolina,	1856
Robert Battey, M. D.	Rome,	Georgia,	1856
John M. Clark,	Milledgeville,	Georgia,	1857
John S. Pemberton,	Columbus,	Georgia,	1857

Felix Glackmeyer,	Montgomery,	Alabama,	1856
P. C. Candidus,	Aberdeen,	Mississippi,	1857
Crawford Blackwood,	Columbus,	Mississippi,	1857
Matthew F. Ash,	Jackson,	Mississippi,	1857
A. E. Richards,	Plaquemine,	Louisiana,	1855
Joseph A. Lee,	Franklin,	Louisiana,	1856
C. Augustus Smith,	Cincinnati,	Ohio,	1852
Wm. B. Chapman, M. D.,	Cincinnati,	Ohio,	1852
Wm. C. Arons,	Cincinnati,	Ohio,	1854
Wm. S. Merrill,	Cincinnati,	Ohio,	1854
Edward S. Wayne,	Cincinnati,	Ohio,	1852
W. H. Coolidge,	Cincinnati,	Ohio,	1854
A. M. Stevens,	Cincinnati,	Ohio,	1854
Theodore Marsh,	Cincinnati,	Ohio,	1854
W. J. M. Gordon,	Cincinnati,	Ohio,	1854
Lewis Rehfuss,	Cincinnati,	Ohio,	1854
J. V. Whetstone,	Cincinnati,	Ohio,	1854
J. W. Hannaford,	Cincinnati,	Ohio,	1854
Asbury Kent,	Cincinnati,	Ohio,	1854
John Scott,	Cincinnati,	Ohio,	1854
J. C. Parr,	Cincinnati,	Ohio,	1856
Paul Reinlein,	Cincinnati,	Ohio,	1856
Oliver F. Gordon,	Cincinnati,	Ohio,	1857
Hamilton Creighton,	Xenia,	Ohio,	1854
W. R. Smith,	Hillsborough,	Ohio,	1854
J. W. Deitrich,	Dayton,	Ohio,	1856
William Fiske,	Cleaveland,	Ohio,	1857
Frederick Stearns,	Detroit,	Michigan,	1855
T. R. Spence,	Detroit,	Michigan,	1857
John T. Fuller,	Detroit,	Michigan,	1857
Otto Leuschner,	Detroit,	Michigan,	1857
Washington Laycock,	Detroit,	Michigan,	1857
Robert F. Lattimer,	Jackson,	Michigan,	1857
Thomas H. Barr,	Terre Haute,	Indiana,	1853
John A. Child,	Madison,	Indiana,	1856

George W. Sloan,	Indianapolis,	Indiana,	1857
Edwin O. Gale,	Chicago,	Illinois,	1857
William H. Gale,	Chicago,	Illinois,	1857
Charles E. Heckman,	Chicago,	Illinois,	1857
James D. Paine,	Chicago,	Illinois,	1857
H. A. Hughes,	Louisville,	Kentucky,	1857
John Jackson,	Knoxville,	Tennessee,	1857
Guilford T. Chamberlain,	St. Louis,	Missouri,	1856
Eugene L. Massot,	St. Louis,	Missouri,	1857
Charles L. Bache,	San Francisco,	California,	1852
William B. Little,	San Francisco,	California,	1857

HONORARY MEMBERS.

Daniel B. Smith,	Philadelphia,	Pennsylvania.	1856
Thomas Farrington.	Boston,	Massachusetts.	1856
Madison J. Bailey, M. D.,	New York,	New York.	1856
George B. Wood, M. D.,	Philadelphia,	Pennsylvania.	1857
Franklin Bache, M. D.,	Philadelphia,	Pennsylvania.	1857
Elias Durand,	Philadelphia,	Pennsylvania.	1857

CORRESPONDENTS.

James Baker,	Wheeling,	Virginia.
Wm. L. Cleveland,	Charleston,	South Carolina.
J. H. M. Morris,	Louisville,	Kentucky.
J. H. Reed,	Chicago,	Illinois.
James B. Campbell,	Portsmouth,	Virginia.
B. R. Strong,	Knoxville,	Tennessee.
Morris Emanuel,	Vicksburg,	Mississippi.
George B. Gates,	Mobile,	Alabama.
L. Wilcox, Jr.,	Pittsburg,	Pennsylvania.
R. Browning,	Indianapolis,	Indiana.

LIST OF COMMITTEES,

TO REPORT AT THE ANNUAL MEETING OF 1858.

STANDING COMMITTEES.

EXECUTIVE COMMITTEE, and the COMMITTEE ON THE PROGRESS OF PHARMACY.

SPECIAL COMMITTEES.

To Report a Syllabus of a Course of Study appropriate to the Student of Pharmacy.

Wm. Procter, Jr., Chairman,
Edward S. Wayne,
Charles Ellis,
Edward Parrish.

On Weights and Measures.

C. B. Guthrie, Chairman,
S. S. Garrigues,
C. T. Carney,
Wm. Procter, Jr.,
John Meakim.

On the Preliminary Revision of the Pharmacopœia.

Charles T. Carney, Chairman,
James S. Melvin,
John Meakim,
I. J. Graham,
W. J. M. Gordon,
Henry F. Fish.
Edward Parrish,
Fred. Stearns,
A. E. Richards,
Robert Battey.

On the Adulteration of Drugs.

C. B. Guthrie, Chairman,
C. T. Carney,
Wm. Fiske,
A. B. Taylor,
A. P. Sharp.

On Local Unofficinal Formulæ.

John Meakim, Chairman,
Edward Parrish,
W. H. Peabody,
W. H. Gilman,
W. B. Chapman,
James Paine,
T. R. Spence,
A. P. Sharp,
W. S. Brewer,
H. A. Blauw,
Joseph Laidley,
Wm. Fiske,
G. T. Chamberlain,
J. S. Melvin.

On the Amendments of the United States Law Regulating the Importation of Drugs and Medicines.

C. B. Guthrie, Chairman,
Wm. A. Brewer,
Richard H. Stabler.

For list of Scientific Questions allotted to members, to be answered at the meeting in 1858, see pages 30 to 34.

LIST OF OFFICERS OF THE ASSOCIATION

SINCE ITS ORGANIZATION.

PRESIDENTS.

Daniel B Smith,	Philadelphia,	1852–3.
William A. Brewer,	Boston,	1853–4.
William B. Chapman,	Cincinnati,	1854–5.
John Meakim,	New York,	1855–6.
George W. Andrews,	Baltimore,	1856–7.
Charles Ellis,	Philadelphia,	1857–8.

FIRST VICE PRESIDENTS.

George W. Andrews,	Baltimore,	1852–3.
George D. Coggeshall,	New York,	1853–4.
Henry T. Cummings,	Portland,	1854–5.
C. B. Guthrie,	Memphis,	1855–6.
John L. Kidwell,	Washington, D. C.,	1856–7.
James Cooke,	Fredericksburg,	1857–8.

SECOND VICE PRESIDENTS.

Samuel M. Colcord,	Boston,	1852–3.
Alexander Duval,	Richmond,	1853–4.
John Meakim,	New York,	1854–5.
Charles Ellis,	Philadelphia,	1855–6.
Frederick Stearns,	Detroit,	1856–7.
S. P. Peck,	Bennington, Vt.,	1857–8.

THIRD VICE PRESIDENTS.

C. Augustus Smith,	Cincinnati,	1852–3.
C. B. Guthrie,	Memphis,	1853–4.
Joseph Laidley,	Richmond,	1854–5.
Henry F. Fish,	Waterbury, Ct.,	1855–6.
H. G. Kiersted,	New York,	1856–7.
A. E. Richards,	Plaquemine, La.,	1857–8.

RECORDING SECRETARIES.

Geo. D. Coggeshall,	1852.	Edward Parrish,	1853.
Edw. S. Wayne,	1854.	W. J. M. Gordon,	1855–7.

CORRESPONDING SECRETARIES.

Wm. Procter, Jr.,	1852–7.	Edw. Parrish,	1857–8.

TREASURERS.

Alfred B. Taylor,	1852–4.	S. M. Colcord,	1854–5.
J. S. Aspinwall,	1856–7.	S. M. Colcord,	1857–8.

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